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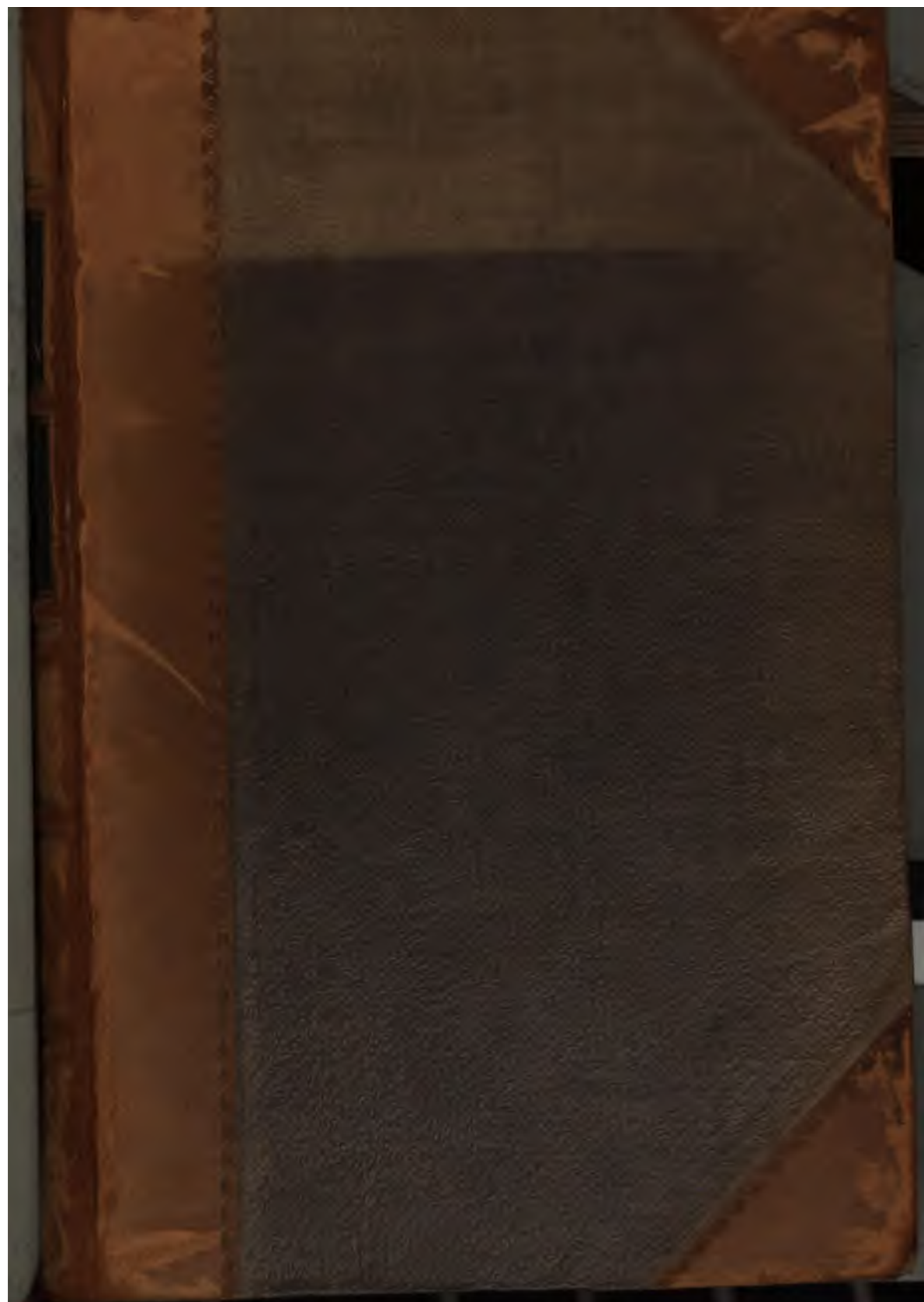
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ILLUSTRATIONS
OF
BRITISH ORNITHOLOGY.

BY
PRIDEAUX JOHN SELBY, Esq.
FELLOW OF THE ROYAL SOCIETY OF EDINBURGH; FELLOW OF THE
LINNEAN SOCIETY; AND MEMBER OF THE WERNERIAN
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VOL. II.
WATER BIRDS.

EDINBURGH :
PRINTED FOR THE PROPRIETOR, AND PUBLISHED BY
W. H. LIZARS, EDINBURGH ;
LONGMAN, REES, ORME, BROWN, GREEN AND LONGMAN,
LONDON ; AND W. CURRY JUN. & CO. DUBLIN.

MDCCCXXXIII.

EDINBURGH :
PRINTED BY NEILL & CO. OLD FISHMARKET.

TABLE OF CONTENTS

OF

VOLUME II.

Common Crane, . . .	Plate I.	Page 4
Common Heron, . . .	II.	11
Crested Purple Heron, . . .	III.	15
Great White Heron, . . .		18
Little Egret Heron, . . .	V.	21
Buff-backed Heron, . . .		24
Squacco Heron, . . .	VI.	25
Common Bittern, . . .	VIII.	30
American Bittern, . . .		34
Little Bittern, . . .	VI.*	36
Common Night-Heron, . . .	VII. & VII.	39
Cayenne Night-Heron, . . .	VII.**	43
White or Common Stork, . . .	XI.	45
Black Stork, . . .	XI.*	48
White Spoonbill, . . .	X.	51
Glossy Ibis, . . .	XII.	56
Common Curlew, . . .	XIII.	62
Whimbrel Curlew, . . .	XIV.	65
Dusky Sandpiper, . . .	XV.	69
Redshank Sandpiper, . . .	XVI.	72
Green Sandpiper, . . .	XVI.	75
Wood Sandpiper, . . .	XVI.	77
Common Sandpiper, . . .	XV.	81

	Plate	Page
Spotted Sandpiper, . . .	XVII.	84
Greenshank, . . .	XIX.	86
Scooping Avocet, . . .	XX.	90
Black-tailed Godwit, . . .	XXI.	94
Red Godwit, . . .	XXII.	98
Brown Longbeak, . . .	XXIV.	103
Woodcock, . . .	XXIII.	107
Great Snipe, . . .	XXIII.	115
Sabine's Snipe, . . .	XXIV.	118
Common Snipe, . . .	XXIII.	121
Jack-Snipe, . . .	XXIII.	125
Ruff, . . .	XXV.	130
Knot, . . .	XXVII.	138
Buff-breasted Tringa, . . .	XXVII.	142
Temminck's Tringa, . . .	XXVII*.	144
Minute Tringa, . . .	XXVII*.	147
Purple or Rock Tringa, . . .	XXVI.	150
Dunlin or Purre, . . .	XXVI.	153
Curlew Tringa, . . .	XXVI.	157
Grey Phalarope, . . .	XXVIII.	162
Red Lobefoot, . . .	XXVIII*.	166
Common Rail, . . .	XXIX.	172
Meadow or Corn Crake, . . .	XXX.	176
Spotted Crake, . . .	XXX*.	179
Baillon's Crake, . . .	XXX*.	182
Little Crake, . . .	XXX*.	185
Common Gallinule, . . .	XXXI.	188
Common Coot, . . .	XXXII.	193
Common Oyster-Catcher, . . .	XXXIII.	200
Common Turnstone, . . .	XXXIII*.	204
Common Sanderling, . . .	XXXVI.	208
Common Pratincole, . . .	LXIII.	213
Cream-coloured Swift-foot, . . .	XXXIII**.	217
Crested or Green Lapwing, . . .	XXXIV.	221
Bastard or Grey Plover, . . .	XXXV.	227
Golden Plover, . . .	XXXVII.	231
Dotterel, . . .	XXXIX.	236

CONTENTS.

v

	Plate	Page
Ringed Plover, . . .	XXXVIII.	240
Kentish Plover, . . .	XXXVIII.	243
Black-winged Stilt, . . .	XXXIX.*	247
Common Thick-Knee, . . .	XL.	250
Grey-lag Wild-Goose, . . .	XLJ.	261
Bean-Goose, . . .	XLII.	263
White-fronted Wild-Goose, . . .	XLIII.	266
Bernicle Goose, or Clackis, . . .	XLV.	268
Brent Goose, . . .	XLV.	271
Red-breasted Goose, . . .	XLVI.	275
Whistling Swan, . . .	XLVII.	278
Bewick's Swan, . . .	XLVII.*	288
Common Shieldrake, . . .	XLVIII.	289
Ruddy or Casarka Shieldrake, . . .	XLVIII.**	293
Common Shoveller, . . .	XLVIII.*	297
Common Gadwall, . . .	LI. & LI.*	301
Common Wild-Duck, . . .	L. & L.	305
Common Pintail, . . .	XLIX. & LI.*	311
Common Teal, . . .	LIV.	315
Gargany Teal, . . .	LIII.	318
Bimaculated Teal, . . .	LV. & LV.*	321
Common Wigeon, . . .	LII.	324
Black Scoter, . . .	LXVIII.	329
Velvet Scoter, . . .	LXVII.	333
Surf-Scoter, . . .	LXIX.	335
Common Eider, . . .	LXX. & LXX.*	338
King Eider, . . .	LXXI.	343
Red-headed Pochard, . . .	LXIII.	347
Red-crested Pochard, . . .		350
Nyroca Pochard, . . .	LXIII.	352
Scaup Pochard, . . .	LXVI. & LXVI.*	354
Tufted Pochard, . . .	LXV.	357
Western Pochard, . . .	LXVI.**	360
Long-tailed Hareld, . . .	LXI.	363
Common Golden-eye Garrot, . . .	LXII.	367
Harlequin Garrot, . . .		371
Goosander, . . .	LVII.	375

	Plate	Page
Red-breasted Merganser, .	LVIII. & LVIII.*	379
Hooded Merganser, .	LVIII.**	383
Smew or White Nun, .	LIX.	385
Red-necked Grebe, .	LXXII.	392
Crested Grebe, .	LXXIII.	394
Horned Grebe, .	LXXIV.	397
Eared Grebe, .	LXXIV.	399
Little Grebe, .	LXXV.	401
Northern Diver, .	LXXVI.	406
Black-throated Diver, .	LXXVII.	411
Red-throated Diver, .	LXXVIII. & LXXVIII.	414
Foolish Guillemot, .	LXXIX.	420
Black Guillemot, .	LXXX.	426
Common Rotche, .	LXXXI.	430
Great Auk, .	LXXXII.	433
Razor Bill Auk, .	LXXXIII.	435
Common Puffin, .	LXXXIII.	439
Common Cormorant .	LXXXIV.	446
Crested Cormorant, .	LXXXVI.	450
Solan Gannet, .	LXXXVII.* & LXXXVII.	455
Caspian Tern, .	.	463
Sandwich Tern, .	LXXXVIII.	464
Common Tern, .	XC.	468
Roseate Tern, .	LXXXIX.	470
Arctic Tern, .	XC.	473
Lesser Tern, .	LXXXIX.	475
Black Tern, .	XCI.	477
Gull-billed Tern, .	LXXXVIII.	480
Little Gull, .	XCII.	484
Black-headed Gull, .	XCII.	486
Common Gull, .	XCIII.	490
Kittiwake, .	XCIV.	493
Ivory Gull, .	XCIV.*	497
Glaucous Gull, .	XCIX.	498
Iceland Gull, .	XCVIII.	501
Herring-Gull, .	XCVI. & XCVI.*	504
Great Black-backed Gull, .	XCVII.	507

CONTENTS.

vii

	Plate	Page
Lesser Black-backed Gull, . . .	XCV.	509
Common Skua, . . .	C.	514
Pomarine Skua, . . .	CI.	517
Arctic Skua, . . .	CI. & CI.*	520
Fulmar Petrel, . . .	CII.	525
Cinereous Shearwater, . . .	CII.*	528
Mank's Shearwater, . . .	CII.	529
Common Storm Petrel, . . .	CIII.	533
Fork-tail Storm Petrel, . . .	CIII.	537

SYNOPTICAL TABLE

OF

BRITISH WATER-BIRDS.

ABBREVIATIONS.

I. INDIGENOUS.

P. V. PERIODICAL VISITANT.

O. V. OCCASIONAL VISITANT.

Order.	Family.	Subfamily.	Genus.	ENGLISH SPECIFIC NAMES.	LATIN SPECIFIC NAMES.	Abbreviations.
4	1	2	1	Common Crane,	<i>Grus cinerea.</i>	O. V.
			2	Common Heron,	<i>Ardea cinerea.</i>	I.
				Crested Purple Heron,	<i>purpurea.</i>	O. V.
				Great White Heron,	<i>alba.</i>	O. V.
				Little Egret Heron,	<i>garzetta.</i>	O. V.
				Buff-backed Heron,	<i>russata.</i>	O. V.
				Squacco Heron,	<i>ralloides.</i>	O. V.
			3	Common Bittern,	<i>Botaurus stellaris.</i>	I.
				American Bittern,	<i>mokoko.</i>	O. V.
				Little Bittern,	<i>minutus.</i>	O. V.
			4	Common Night-Heron,	<i>Nycticorax Europæus.</i>	O. V.
3		Cayenne Night-Heron,	<i>Cayenensis.</i>	O. V.
			5	White or Common Stork,	<i>Ciconia alba.</i>	O. V.
				Black Stork,	<i>nigra.</i>	O. V.
			6	White Spoonbill,	<i>Platalea leucorodia.</i>	O. V.
			7	Glossy Ibis,	<i>Ibis Falcinellus.</i>	O. V.
			8	Common Curlew,	<i>Numenius arquata.</i>	I.
				Whimbrel Curlew,	<i>Phæopus.</i>	I.
			9	Dusky Sandpiper,	<i>Totanus fuscus.</i>	O. V.
				Redshank Sandpiper,	<i>calidris.</i>	I.
				Greenshank Sandpiper,	<i>ochropus.</i>	O. V.
				Wood Sandpiper,	<i>Glareola.</i>	O. V.
				Common Sandpiper,	<i>Hypoleucos.</i>	P. V.
				Spotted Sandpiper,	<i>macularius.</i>	O. V.
				Greenshank,	<i>glottis.</i>	P. V.
			10	Scooping Avocet,	<i>Recurvirostra Avocetta.</i>	I.
			11	Black-tailed Godwit,	<i>Limosa melanura.</i>	I.
				Red Godwit,	<i>rufa.</i>	P. V.

SYNOPTICAL TABLE OF

Order.	Family.	Subfamily.	Genus.	ENGLISH SPECIFIC NAMES.	LATIN SPECIFIC NAMES.	Abbreviations.
			12	Brown Longbeak,	<i>Macroramphus griseus.</i>	O. V.
			13	Woodcock,	<i>Scolopax rusticola.</i>	P. V.
				Great Snipe,	major.	O. V.
				Sabine's Snipe,	Sabini.	O. V.
				Common Snipe,	gallinago.	I.
				Jack Snipe,	gallinula.	P. V.
			14	Ruff,	<i>Machetes pugnax.</i>	P. V.
			15	Knot,	<i>Tringa Canutus.</i>	P. V.
				Buff-breasted Tringa,	rufescens.	O. V.
				Temminck's Tringa,	Temminckii.	O. V.
				Minute Tringa,	minuta.	O. V.
				Purple or Rock Tringa,	maritima.	P. V.
				Dunlin or Purre,	variabilis.	I.
				Curlew Tringa,	subarquata.	O. V.
			16	Grey Phalarope,	<i>Phalaropus lobatus.</i>	O. V.
			17	Red Lobefoot,	<i>Lobipes hyperboreus.</i>	P. V.
			18	Common Rail,	<i>Rallus aquaticus.</i>	I.
			19	Meadow or Corn Crake,	<i>Crex pratensis.</i>	P. V.
				Spotted Crake,	Porzana.	P. V.
				Baillon's Crake,	Baillonii.	O. V.
				Little Crake,	pusilla.	O. V.
			20	Common Gallinule,	<i>Gallinula chloropus.</i>	I.
			21	Common Coot,	<i>Fulica atra.</i>	I.
		5	22	Common Oyster Catcher,	<i>Hæmatopus ostralegus.</i>	I.
			23	Common Turnstone,	<i>Streptilas interpres.</i>	P. V.
			24	Common Sanderling,	<i>Arenaria calidris.</i>	P. V.
			25	Collared Pratincole,	<i>Glareola torquata.</i>	O. V.
			26	Cream-coloured Swiftfoot,	<i>Cursorius isabellinus.</i>	O. V.
			27	Crested or Green Lapwing,	<i>Vanellus cristatus.</i>	I.
			28	Bastard or Grey Plover,	<i>Squatarola cinerea.</i>	P. V.
			29	Golden Plover,	<i>Charadrius pluvialis.</i>	I.
				Dotterel,	morinellus.	P. V.
				Ringed Plover,	Hiaticula.	I.
				Kentish Plover,	Cantianus.	P. V.
			30	Black-winged Stilt,	<i>Himantopus melanopterus.</i>	O. V.
			31	Common Thick-Knee,	<i>Œdicnemus crepitans.</i>	P. V.
		5	32	Grey-lag Wild Goose,	<i>Anser palustris.</i>	P. V.
				Bean Goose,	ferus.	P. V.
				White-fronted Wild Goose,	<i>Erythropus.</i>	P. V.
				Bernicle or Clake Goose,	Bernicla.	P. V.
				Brent Goose,	Brenta.	P. V.
				Red-breasted Goose,	ruficollis.	O. V.
		2	33	Whistling Swan,	<i>Cygnus ferus.</i>	P. V.
				Bewick's Swan,	Bewickii.	P. V.
			34	Common Shieldrake,	<i>Tadorna vulpanser.</i>	I.
				Ruddy Shieldrake,	rutila.	O. V.
			35	Common Shoveller,	<i>Spathulea clypeata.</i>	I.
			36	Common Gadwall,	<i>Chauliodus Strepera.</i>	P. V.
			37	Common Wild Duck,	<i>Anas Boschas.</i>	I.
			38	Common Pintail,	<i>Querquedula acuta.</i>	P. V.

Order.	Family.	Subfamily.	Genus.	ENGLISH SPECIFIC NAMES.	LATIN SPECIFIC NAMES.	Abbreviations.
				Common Teal,	Querquedula Crecca.	I.
				Gargany Teal,	Circia.	P. V.
				Bimaculated Teal,	Gloscitans.	O. V.
			39	Common Wigeon,	Mareca Penelope.	P. V.
			40	Black Scoter,	Oidemia nigra.	P. V.
				Velvet Scoter,	fusca.	P. V.
				Surf Scoter,	perspicillata.	O. V.
			41	Common Eider,	Somateria mollissima.	I.
				King Eider,	spectabilis.	O. V.
			42	Red-headed Pochard,	Fuligula ferina.	P. V.
				Red-crested Pochard,	rufina.	O. V.
				Nyroca Pochard,	Nyroca.	O. V.
				Scaup Pochard,	marila.	P. V.
				Tufted Pochard,	cristata.	P. V.
				Western Pochard,	dispar.	O. V.
			43	Long-tailed Hareld,	Harelda glacialis.	P. V.
			44	Common Golden-eye	Clangula vulgaris.	P. V.
				Garrot,		
				Harlequin Garrot,	Histrionica.	O. V.
			5	Gooseander,	Mergus merganser.	P. V.
				Red-breasted Merganser,	serrator.	I.
				Hooded Merganser,	cucullatus.	O. V.
				Smew or White Nun,	albellus.	P. V.
			2 ... 46	Red-necked Grebe,	Podiceps rubricollis.	P. V.
				Crested Grebe,	cristatus.	I.
				Horned Grebe,	cornutus.	I.
				Eared Grebe,	auritus.	I.
				Little Grebe,	minor.	I.
			47	Northern Diver,	Colymbus glacialis.	P. V.
				Black-throated Diver,	arcticus.	I.
				Red-throated Diver,	septentrionalis.	I.
			3	Foolish Guillemot,	Uria Troile.	P. V.
				Black Guillemot,	Grylle.	I.
			49	Common Rotch,	Mergulus melanoleucos.	O. V.
			50	Great Auk,	Alca impennis.	O. V.
				Razor-bill Auk,	Torda.	P. V.
			51	Common Puffin,	Fratercula arctica.	P. V.
			4	Common Cormorant,	Phalacrocorax Carbo.	I.
				Crested Cormorant,	cristatus.	I.
			53	Solan Gannet,	Sula Bassana.	P. V.
			5	Caspian Tern,	Sterna Caspia.	O. V.
				Sandwich Tern,	Boysii.	P. V.
				Common Tern,	Hirundo.	P. V.
				Roseate Tern,	Dougallia.	P. V.
				Arctic Tern,	arctica.	P. V.
				Lesser Tern,	minuta.	P. V.
				Black Tern,	nigra.	P. V.
				Gull-billed Tern,	Anglica.	O. V.
			55	Little Gull,	Larus minutus.	O. V.
				Black-headed Gull,	ridibundus.	I.

SYNOPTICAL TABLE, &c.

Order.	Family.	Subfamily.	Genus.	ENGLISH SPECIFIC NAMES.	LATIN SPECIFIC NAMES.	Abbreviations.
				Common Gull, Kittiwake, Ivory Gull, Glaucous Gull, Iceland Gull, Herring Gull, Great Black-backed Gull, Lesser Black-backed Gull,	<i>Larus Canus.</i> <i>Rissa.</i> <i>eburneus.</i> <i>glaucus.</i> <i>Islandicus.</i> <i>argentatus.</i> <i>marinus.</i> <i>fuscus.</i>	I. P. V. O. V. O. V. O. V. I. I. I.
			56	Common Skua, Pomarine Skua, Arctic Skua,	<i>Cataractes vulgaris.</i> <i>Pomarinus.</i> <i>parasiticus.</i>	P. V. O. V. P. V.
			57	Fulmar Petrel,	<i>Procellaria glacialis.</i>	P. V.
			58	Cinereous Shearwater, Mank's Shearwater,	<i>Puffinus cinereus.</i> <i>Anglorum.</i>	O. V. P. V.
			59	Common Storm Petrel, Fork-tail Storm Petrel,	<i>Thalassidroma Pelagica.</i> <i>Bullockii.</i>	I. I.

ILLUSTRATIONS
OF
BRITISH ORNITHOLOGY.

ORDER IV.
GRALLATORES—WADERS.

IN the system so ably developed by Mr VIGORS, in his Treatise on the Affinities which connect the Orders and Families of Birds, this constitutes his fourth Order, being analogous to the *Grallæ* of LATHAM and others, and holding the intermediate station between the *Rasores* or Gallinaceous Birds, and the *Natatores* or true Aquatics. In addition to the various genera of the order *Grallæ* of other systems, which was placed at the head of the second great Division or *Aves Aquatica*, it contains some of the genera arranged in the Order *Pinnatipedes* of LATHAM, as *Fulica*, *Phalaropus*, &c. and also others which, from the development of the membrane connecting the toes, had been included amongst the *Palmipedes* or Swimmers, but whose real affinities clearly point them out as more intimately connected with the members of this Order; such are the Genera *Phænicopterus*, *Recurvirostra*, &c. The five families into which it may be divided, according to the quinary system (placing

those considered most typical in the centre, in accordance with the views of Mr VIGORS), are the *Gruidæ*, *Ardeæ*, *Scolopacidæ*, *Rallidæ*, and *Charadriadæ*, of which the *Ardeæ* and *Scolopacidæ* are the typical or normal groups, as partaking most equally of the advantages of both elements. Of the other three or aberrant Divisions, the *Gruidæ* and *Charadriadæ*, placed at the extremes of the Order, are more attached to the land in their habits, and serve not only to connect this with the preceding Order of *Rasores* or Gallinaceous Birds, but to support that succession of affinities which prevails within the circle of the order itself; while the third, or *Rallidæ*, deviating in form from the other groups, and exhibiting in many respects a close approach to birds more decidedly aquatic, serves as a connecting link between the present order, and the succeeding one of *Natatores*.

FAMILY I.—GRUIDÆ.

Many of the birds of this family were formerly comprised in the genus *Ardea* of LINNÆUS, but they differ from the remainder of that group not only in the form of the bill and feet (the first of which is thicker and more obtuse at the end, and the latter usually much shorter than in the true *Ardeæ*), but a marked and considerable difference exists in their habits and manners, which are nearer allied to those of the land birds, and their food, instead of being entirely animal, and derived from the water, is in a great measure vegetable. Their plumage and general carriage also indicate a near alliance with some of the *Struthionidæ* of the preceding order, through which the chain of affinities connecting the present order with the more typical gallinaceous birds, is supported. In addition to the recently instituted genera *Anthropoides*, the type of which is the Numidian Crane (*Ardea Virgo* of LINN.); *Balearica*, represented by the Crowned Crane (*Ardea Pavonina* of LINN.); and *Grus*, of which the *Ardea*

Grus of LINNÆUS may be considered typical; this family also contains the genus *Psophia*, closely connected with *Anthropoides* in the form and shortness of the bill, and which also, in plumage and other particulars, indicates its affinity to the *Struthionidæ*; and the genus *Cariama* of BRISSON (*Dicholophus* of ILLIGER) also appears to be in its natural situation in this family; and it is through some of the members of this group that a more immediate link with the *Charadriadæ* (which meet the present family at the corresponding extreme of the order) is effected.

GENUS GRUS. CRANE.

GENERIC CHARACTERS.

Bill longer than the head, straight, strong, laterally compressed, the tip convexo-conical, pointed. Mandibles of equal length and height; culmen, from the base to one-half of the length of the bill, flat and indistinct, from thence to the tip rounded; nasal furrow reaching rather beyond the middle of the bill, broad and deep. Tomia straight, parallel, smooth, except near the tip, where they are slightly and finely serrated. Ascending angle of the lower mandible with a rounded culmen.

Nostrils placed horizontally in the anterior part of the furrow, large, concave, and pervious, posteriorly closed by the membrane.

Tongue broad, fleshy, and sharp-pointed.

Legs long, with great part of the tibia naked. Feet four-toed; toes strong and rather short, the middle one about one-third the length of the tarsus, and joined to the exterior by a membrane reaching almost as far as the second phalange; the interior one nearly free. Hind toe short, dependent, articulated upon the tarsus, above the plane of the others. Claws short, strong, sharp, falcated, and entire. Front of the tarsus and toes scutellated; under part of the toes roughly reticulated.

Tail rather short, and consisting of twelve feathers.

Wings rounded; the first quill shorter than the second; the third the longest of all. In plumage, the head more or less naked, or thinly clad with bristles. Upper part of the neck, with the feathers linear and acuminate. The rest of the plumage close set. Secondary quills, nearest the back, elongated, dependent, arched, frequently with webs open and distinct.

The genus *Grus*, as now restricted, contains several species, all birds of large size, inhabitants of extensive marshy plains, where they subsist upon vegetables, grains, seeds, worms, and reptiles. Their habits are more those of land birds than any of the succeeding family *Ardeidae*, to which, however, they are nearly allied, forming a connecting link; their plumage and appearance at the same time indicating their connexion with the *Struthionidae* of the rasorial order. Of the various known species, only one is a native of Europe, viz. the *Grus cinerea*, or Common Crane, which at one time appears to have been common in Britain, but is now only found as a rare visitant. They are all birds of migratory habits, retiring, from whatever division of the globe they happen to belong, to more northerly or colder regions during the summer, or period of reproduction. In most of the species of this genus, as well as in *Anthropoides*, the trachea of the male is of various construction, making several convolutions, previous to its entrance within the thorax.

COMMON CRANE.

GRUS CINEREA, Bechst.

PLATE I.

Grus cinerea, Bechst. Naturg. Deut. 4. p. 103.—Temm. Man. d'Ornith. v. 2. p. 557.—Steph. Shaw's Zool. v. 11. 524. pl. 40.—Wagler, Syst. Av. sp. 9. *Ardea Grus*, Linn. Syst. 1. p. 234. 4.—Briss. 5. p. 374. 6. t. 33.—Raii Syn. p. 95. A. 1.
La Grue, Buff. Ois. v. 7. p. 287. t. 14.
Grue cendrée, Temm. Man. d'Ornith. 2. p. 557.
Aschgrauer Kranick, Meyer, Taschenb. Deut. 2. p. 350.

Common Crane, *Penn.* Br. Zool. 2. App. 629. t. 6.—*Arct.* Zool. 2. p. 453. A.—*Will.* (Angl.) 274.—*Lath.* Syn. 5. p. 50. 5.—*Mont.* Ornith. Dict.—*Id.* Sup.—*Lath.* Syn. Sup. 2. 298. 2.—*Bewick's* Br. Birds, 2. 29.—*Shaw's* Zool. 11. p. 524. pl. 40.

IN earlier times, when the country was not so well peopled, and vast tracts of land remained uninclosed, this majestic and elegant bird (if we are to credit the accounts transmitted to us by the ornithologists of those days) appears to have visited Britain with great regularity during the periods of its migrations, most probably during its summer or polar movement (though RAY mentions winter visits), as ALDROVANDUS speaks of their breeding in the fens and marshes of Cambridgeshire. This fact is corroborated by WILLOUGHBY, who, in enumerating the statutes for the preservation of wild fowl, quotes one of them as imposing a penalty of twenty pence upon any one who shall take away the egg of a Crane or Bustard. As enclosures became more frequent, and commons and fens, the appropriate haunts of these birds for nidification, were drained, the Crane, with several other species (as the *Bustard*, *Ædicneme*, &c.) seem rapidly to have decreased in numbers, and by degrees to have deserted the island, as no longer affording them either security, or the peculiarities of soil and situation necessary to their economy. Accordingly Mr PENNANT, who wrote upwards of fifty years ago, mentions the Crane as a bird at that time almost unknown, even in those districts where it had, at an earlier period, been represented as quite common; and he instances a single individual killed in 1773, as the only one that had been seen in England during his time. It still continues equally rare, and appears to have permanently changed the line of its migrations, for (in addition to the above mentioned instance by PENNANT) I can only cite a small flock that visited Zetland during the harvest of 1807, as recorded by MONTAGU and the Rev. Dr FLEMING, out of which one was shot*. These circumstances, therefore, only entitle it to

* Since writing the above, I have received information that a Crane was killed in Oxfordshire, in December 1830.

- Rare vis- rank in our Fauna, at the present day, as a very rare visi-
tant. tant. The Crane, in its contour and gait, bears a considerable
resemblance to some of the *Struthionidæ*; and we are immediately reminded of the Ostrich, by the long flowing
plumes that overhang the tail. Through this and other families its affinity to the *Rasores* is readily traced. In its
internal conformation it also differs very essentially from the more typical families of the *Grallatores*, and its strong and
muscular stomach indicates a different general economy from that of the members of the succeeding family of *Ardeada*, in
which it was included by former authors. It is gregarious, and usually makes its distant aerial voyages in considerable
bodies, which fly at a great elevation, uttering during their progress loud cries, which may be distinctly heard even when
the birds themselves are far beyond the reach of sight; and these flights are very frequently performed in the night
time. Its equatorial migrations extend to India, Egypt, and other warm climates of Asia and Africa; but in summer it retires to the northern and eastern parts of Europe to
breed. The nest is placed amongst the long herbage of marshy tracts, and sometimes (according to TEMMINCK) upon
ruins, or the roofs of houses. Its eggs, two in number, are of a pale bluish-green colour, blotched with brown. It
frequents extensive plains, particularly open grounds under cultivation, and feeds much upon newly sown corn and other
seeds; in this respect indicating a close connexion with birds of the gallinaceous or *rasorial* order. It, however,
readily devours both worms and frogs and other reptiles, the more appropriate food of the *Ardeada*, to which family
its long slender neck, lengthened tarsi, form of wings, &c. show a near approach. The Crane, as well as other members of the *Gruida* (as genus *Anthropoides*, &c.) exhibits a
remarkable structure of the trachea or windpipe. In this bird, instead of going directly into the thorax, it enters a
large cavity formed in the keel of the sternum, and is there doubly reflected; the first duplicature reaching the full ex-
- Nest, &c.
- Food.

tent of the excavation, the second about midway. After its return from this second flexure, it bends upwards, and passing over the ridge of the sternum by the left clavicle, there enters the thorax, and is attached to the lungs by its bronchial tubes*. The female possesses the same formation as the male, but the duplicatures are not so considerable, nor do they extend so far backwards into the cavity of the sternum.

PLATE 1. Represents the Crane of about one-half the size of nature, from a very fine specimen in the splendid collection of Sir WILLIAM JARDINE, Bart.

The bill is black, with the tip of a straw-yellow colour; the nostrils pervious and oblong. The forehead and space between the bill and eyes, bluish black, garnished with stiff bristly hairs. The crown is naked, with the skin of a tile-red colour. The occiput, the throat, and fore part of the neck, deep broccoli-brown; the hinder part, and sides of the neck, greyish-white. The upper and under parts of the body of a deep ash-grey. The primary quills and greater coverts black; some of the secondaries and the tertials long and arched; the latter with decomposed barbs of a blackish-brown colour, and forming elegant plumes, something similar to those of the Ostrich, which usually droop over the tail, but can be erected at pleasure. The legs and feet are black.

General
descrip-
tion.

The plumage of both sexes is similar, though the colours of the male bird are perhaps generally of a finer and brighter tint than those of the female. The young do not acquire their perfect plumage till after the second moulting, previous to which the crown of the head is covered with downy feathers, and they want the deep chocolate-brown upon the occiput and throat.

* For a further description, see Dr LATHAM's Essay on the Trachea of Birds, in the fourth volume of the Linnean Transactions.

FAMILY II.—ARDEADÆ.

As I have previously observed, those groups which appear to partake most equally of the advantages to be derived from both land and water, may properly be considered as the typical families of the *Grallatores*. The *Ardeadæ*, then, naturally come under that class; as birds which inhabit the land, or at least do not possess the essential qualities of water-fowl (such as the powers of swimming and diving), but yet derive their support almost entirely from the watery element. The characteristics of the family (at least of the most typical genera) are legs of great length, enabling them to wade deep into the water in search of their prey, and for the capture of which is added a great extension of neck, with a long sharp-pointed bill, acting as a spear to transfix it. Modifications, however, of these characters, of course exist in the forms which lead to and connect this with the other families of the order, and with the other orders of the class, supporting that succession of affinities that prevails, not only in the feathered race, but throughout the whole system of animated nature.

The food of the *Ardeadæ* is almost entirely animal, consisting of fish, reptiles, worms, and insects, and sometimes of the smaller *Mammalia*, inhabiting the banks of rivers, or living in marshy districts.

A small portion only of the genera that compose the various families are to be found in the British Islands, as might indeed be expected in so confined a part of the globe. Due allowance must therefore be made for the apparent deficiency of those links that unite birds with characters deviating considerably from each other; as such links are beautifully supplied by the interposition of genera or forms belonging to other climes; and the natural chain of affinities readily and satisfactorily traced.

GENUS ARDEA. HERON.

GENERIC CHARACTERS.

Bill longer than the head, higher than broad, straight, compressed, sharp-pointed, of mean strength. Base of both mandibles covered with a delicate cere. Mandibles of nearly equal length; maxilla laterally sulcated for about two-thirds of its length; culmen rounded; tip drawn to a point, and very slightly inclined, emarginated; tomia of maxilla equal, serrated towards the tip. Mandibles of equal depth, tomia drawn inwards, very sharp, and serrated near the point. Angle of maxilla with the culmen compressed, more or less ascending. Lores naked.

Nostrils at a short distance from the base of the bill, and placed in the lateral furrow; longitudinal and narrow; pervious, and partly covered with a naked membrane.

Tongue reaching to about half the length of the bill, narrow, membranous, and sharp-pointed. Feet with the tarsus considerably longer than the middle toe; toes four, rather long, slender, congruous, all unequal; the middle one connected, as far as the first phalange, to the exterior by a membrane; interior one nearly free. Hind toe about half the length of the middle one, articulated interiorly upon the same plane, and resting entirely upon the ground. Tibia naked for a considerable space above the tarsal joint. Nails falcate, that of the hind toe the longest of all; that of the middle toe pectinated. Front of the tarsus clypeate; hinder part of the tarsus reticulated. Upper part of the toes scutellated.

Wings ample, rounded; the second and third quills the longest. Tail short and even. Neck covered with short close-set feathers; and, in adults, towards the base of the fore part of the neck, rise long acuminate pendulous feathers. Feathers on the back elongated, silky, linear, or laciniated, with decomposed barbs and barbules.

General plumage loose and open, with barbs slightly adhering.

The genus *Ardea* of the earlier writers was very comprehensive, and contained many birds, which "as science advanced, and their natural affinities became better known, it has been found necessary to transfer to other groups, or to form into distinct genera. I have accordingly adopted the views of the first ornithologists of the present day, and restricted the genus to those species which possess all the essential typical characters, as developed in *Ardea herodias*, *cinerea*, *purpurea*, &c., though a slight modification in the species that lead to the succeeding and nearest allied genera is perceptible. The genus, even as now restricted, contains a great many species, which all inhabit marshes and the banks of lakes and rivers, and form a very prominent part of the normal group of the Ardeadae, in the order *Grallatores*. Their food consists of fish, reptiles, and insects, which their lengthened tarsi and acute serrated bill enable them to capture in the shallower parts of the water. Their habits are solitary, except during the season of reproduction, when they assemble, and breed in large companies; and, when they obey the laws of migration, their journeys are performed in extensive flocks.

Some of the species, that dwell in the colder latitudes, are furnished with a down upon some parts of the body, which appears to act not only as an additional clothing, but as the medium for distributing a peculiar powder over the whole plumage, tending to make it impervious to moisture.

Most of the species are ornamented, in a greater or less degree, with elongated plumes, which arise from the occiput, the lower and fore part of the neck, and the back. In some species, the feathers of the last named part have their barbs long, silky, and decomposed. The occipital plumes are short during the autumn and winter, but become fully developed on the approach of the pairing season. The plumage

of both sexes is similar, that of the male exhibiting only a superior lustre, and pureness of tint. The young of many species differ considerably from the mature birds, which has led to much confusion, and sometimes an unnecessary multiplication of species. Their flight is heavy, with the neck retracted, and resting between the shoulders; and having the legs extended behind, to preserve the balance of the body. Their appetite is voracious, and their digestion powerful and rapid.

COMMON HERON.

ARDEA CINEREA, Lath.

PLATE II.

- Ardea cinerea*, Lath. Ind. Orn. 2. 691. 54.—*Shaw's Zool.* 11. 548.—*Wagler*, Syst. Av. sp. 3.—*Flem.* Br. Anim. 1. 95. 126.
Heron cendré, Temm. Man. d'Ornith. 2. 567.
Ardea major, Linn. Syst. 1. 236. 12.—*Gmel.* Syst. 1. 627. sp. 12.—*Raii* Syn. 98. A. 1.
Ardea cristata, Briss. 5. 396. 2. t. 35.
Le Heron huppé, Buff. Ois. 7. 342. Pl. Enl. 755.
Aschgrauer Rheiherr, Meyer, Taschenb. Deut. 2. p. 332.
Ardea cinerea, Linn. 1. 236. 11.—*Briss.* Orn. 5. 392. 1. } Young of
Le Heron, Buff. Ois. 7. 342. pl. 19. } both sexes.
Crested Heron, Albin. Br. Birds, 1. pl. 67.—*Low's Faun.* Orcad. 77.
Common Heron, Penn. Br. Zool. 2. No. 173.—*Arct. Zool.* 2. No. 343.—
Lath. Syn. 5. 83. 50.—*Mont.* Ornith. Dict.—*Id.* Sup.—*Bewick's Br.*
Birds, 2. 37.—*Levin's Br. Birds*, 5. pl. 118.—*Shaw's Zool.* 11. 548.—
Flem. Br. Anim. 1. 95.

PROVINCIAL—Heronseugh.

NOTWITHSTANDING the Heron is now so little esteemed, both by the epicure and the sportsman, there is no bird better entitled to claim the protection of the admirers of nature and picturesque scenery, from the striking effect its presence can produce in the solitary haunts in which it delights, and Haunts. where it is most commonly found. Its form, whether at rest or upon the wing, is interesting, and well adapted to give effect to the landscape, and for this reason it is frequently introduced as a prominent feature in the productions of the pencil. At an earlier period, however, when hawking was

held in great estimation, and was considered the appropriate pastime of the gentry of the land, the Heron, from the excellent sport it afforded by its determined resistance to the Falcon, was regarded as noble game, and penal statutes were enacted for its protection; and we find, that to have taken its eggs alone subjected the offender to a mulct of twenty shillings. As an article of luxury, its flesh was also in such repute, as to be deemed little, if at all, inferior to that of the Peacock, a bird whose rarity and costliness confined it to the tables of the great. But indeed the low estimation in which the flesh of the Heron is now held, would seem to be in a great degree the effect of prejudice, or the fashion of taste, as, under proper treatment and good cookery, the Heron, when fat and in fine condition, is but little inferior to some of our most approved wild fowl. In its habits it is solitary, and being a bird of great timidity and watchfulness, is not easily approached within gunshot. When seen, it is usually standing immoveable in the shallows of rivers, or pools of water, with its neck bent, and drawn between its shoulders, watching attentively the motions of its finny prey, upon which, when once within reach, it darts with unerring aim, transfixing it by a single stroke of its sharp bill. Its favourite food is fish, and its appetite being very voracious, and the digestive powers exceedingly rapid, it sometimes commits great depredations in fish-ponds, before the evil is discovered. It also devours frogs and other reptiles, and even young water-rats, mice, and other small *Mammalia* are swallowed whole, and with great avidity. The geographical distribution of the species is very extensive, and embraces the greater part of the old world; in some countries it is regularly migratory, but it is a permanent resident in Britain. About the beginning of March, Herons assemble together previous to resorting to their respective breeding stations, or *Heronries*, which are always in the loftiest trees the country may happen to afford. Their nests are large and flat, and many are frequently placed close together upon the same

Food.

Nest, &c.

tree; they are built of sticks, and the interior lined with wool and other soft materials. They lay four or five eggs, of a bluish-green colour, but without lustre. The young, when first hatched, are naked and very unsightly; and it is generally five or six weeks before they are so far fledged as to be able to quit the nest, during which period they are amply supplied with fish and other food by the parent birds, they having frequently to roam to a great distance for it*. When taken young, the Heron may be easily reared, and rendered very tame, and, when domesticated, is a pleasing addition to the other birds frequently kept in gentlemen's grounds, though troublesome to maintain, on account of the peculiarity of its food. But the old birds, when caught, soon die, from obstinately refusing all nourishment. When wounded by the sportsman, and not entirely disabled, the Heron must be approached with caution, as it sets itself in a menacing attitude, and makes a formidable defence, striking directly at the eyes of the dog that unwarily attacks it†.

PLATE 2. Represents a male bird of about two-thirds of the natural size.

The forehead, crown, sides of the head, and throat, the ridge of the wings, the breast and belly, are pure white. The sides, and back part of the neck, pale grey. The front of the neck has a double row of oblong spots of greyish-black. The long plumes which

General
description.

* A curious account of a battle between a colony of Herons and a neighbouring rookery is related by BEWICK, upon the authority of Dr HEYSHAM, to which I refer my reader.

† From the following interesting anecdote, communicated by my worthy friend P. NEILL, Esq. of Canonmills, near Edinburgh, it would seem, that, under certain circumstances, and where favoured by situation, the Heron is not disinclined to breed in a state of domestication. "The Common Heron (a male), which was winged on Coldingham Muir in autumn 1821, when a young bird, and given to me in 1822 by Mr JOHN WILSON of the College, has since resided in my garden at Canonmills, and is now so tame, that he often follows me, expecting a piece of cheese, which he relishes. Four years ago Mr ALLAN of Lauriston sent me a young fe-

spring from the lower part of the neck are white, or greyish-white. The streak over the eyes, and the occipital plumes (which are sometimes six or eight inches in length) are black, as are also the flanks and feathers on each side of the breast. The feathers of the back and the scapulars are pale grey, long, loose, and acuminate. The lesser wing-coverts bluish-grey. The quills greyish-black. The tail deep bluish-grey. The bill king's-yellow; the irides gamboge-yellow. The legs and toes brown, tinged with yellowish-green. The naked part of the tibia yellowish or orange.

The female resembles the male, except that the tints of her plumage are not quite so pure.

The young are without the occipital crest; and the long scapulary feathers that adorn the old birds, as well as

male, which had been taken during a severe storm. She soon associated with the older male. In summer 1828 she laid three or four eggs (I am not sure which), on the top of a wall next to the mill-pond: these all tumbled into the water; for though the birds had carried up a few sticks, they made no proper nest. She then laid one or two on the flower-border below the wall, and close by the box-edging: here some eggs were broken by the birds suddenly starting off when alarmed by strangers walking in the garden. We supplied their place by some bantam eggs, and only one heron egg at last remained. Alas! the poor hen, having strayed to the margin of the mill-pond, was shot by some thoughtless young man with a fowling-piece. The cock continued to sit for several entire days after the death of the hen, but at last tired. He used to sit, when she went off for food. During the whole time of pairing, the cock was very bold, raising his feathers and snapping his bill whenever any one approached." To the foregoing Mr NEILL adds the following curious fact with regard to his male bird, which shews that the Heron is not altogether incapable of swimming, though in its natural or wild state it is seldom obliged to have recourse to this unusual mode of obtaining its prey. "A large old willow tree had fallen down into the pond, and at the extremity, which is partly sunk in the sludge and continues to vegetate, Water-Hens breed. The old cock Heron swims out to the nest and takes the young if he can. He has to swim ten or twelve feet, where the water is between two and three feet deep. His motion through the water is slow, but his carriage stately. I have seen him fell a rat by one blow on the back of the head, when the rat was munching at his dish of fish."

those that hang down from the lower part of the neck, are wanting. The forehead, crown, hinder and lateral parts of the neck, the back, and wing-coverts, are deep grey. The throat, belly, abdomen, and inner part of the thighs, are white. The fore part of the neck is spotted with blackish-grey. The upper mandible is blackish-brown, and the under one greenish-yellow. The lores yellowish-green; the legs and feet grey, or brown, tinged with yellow. The bare part of the tibia greenish-yellow.

CRESTED PURPLE HERON.

ARDEA PURPUREA, Linn.

PLATE III.

Ardea purpurea, Linn. Syst. 1. 236. 10.—Gmel. Syst. 1. 626.—Lath. Ind. Orn. 2. 697. 72.

Ardea Botaurus, Gmel. Syst. 1. 636.—Lath. Ind. Orn. 2. 698. 74.

Ardea rufa, Lath. Ind. Orn. 2. 692. 55.

Botaurus major, Briss. Orn. 5. 455. 28.

Ardea stellaris major, Raii, Syn. 100. 13.—Will. 208.

Grand Butor, Buff. Ois. 7. 422.

Heron pourpré, Temm. Man. d'Ornith. 2. 570.

Purper Reiher, Meyer, Taschenb. Deut. 4. 27. t. 2.

Crested Purple Heron, Lath. Syn. 5. 95. 65.—Shaw's Zool. 11. 556.

Greater Bittern, Lath. Syn. 5. 58. 18.

Greater Speckled or Red Heron, Will. (Angl.) p. 283.

Rufous Heron, Lath. Syn. 5. 99. 72.

Ardea purpurata, Gmel. Syst. 1. 641.—Lath. Ind. Orn. 2. 698. 75.

Ardea Caspica, Lath. Ind. 2. 698. 73.

Ardea variegata, Lath. Ind. 2. 692. 56.

Heron pourpré, Buff. Ois. 7. 369.

Purple Heron, Lath. Syn. 5. 96. 66.

African Heron, Lath. Syn. Sup. 237.—Mont. Ornith. Dict.

Ardea rubiginosa, Gmel. Syst. 1. 632.—Lath. Ind. 2. 693. 58.

Rusty Crowned Heron, Arct. Zool. 2. No. 358.—Lath. Syn. 5. 87. 53.

Adult.

Young.

THIS beautiful Heron stands in the list of our Fauna as a rare visitant; for it appears that, prior to the publication of MONTAGU'S Ornithological Dictionary, only two specimens had been recorded as killed in England. Since that time Natural History has made rapid advances, and from having, as a science, been more generally cultivated, has induced a

Rare visitant.

closer investigation into the habitats of species ; and consequently, several stragglers have been announced, which would otherwise have escaped observation. Among others, I may mention that in the month of May 1830, a fine male of this species, that was killed in Norfolk, came into my possession, and its mate into that of Sir WILLIAM JARDINE *. This bird undergoes considerable change, in colours and texture of plumage, in its progress from the young to the adult and perfect state ; and a want of sufficient information, arising probably from a neglect of the narrow investigation which should attend all pursuits in Natural History, has given rise to the long list of synonyms above quoted. By LATHAM alone it has been specifically described under seven different titles, most of them marking the particular change now certified as taking place at the different moultings, in its progress to maturity. Like the *Ardea cinerea*, its geographical distribution extends to the three quarters of the old world. In Europe, it is most abundant in the southern countries, becoming scarce as it approaches to the north. It is, however, well known in Holland, but not to so great a degree as the Common Heron. In Asia, it abounds on the shores of the Caspian Sea, and on the borders of the rivers and lakes of Tartary, and is also an inhabitant of the Philippine Isles. In Africa it is met with in Nubia, at the Cape of Good Hope, &c. Its habits are similar to those of *Ardea cinerea*, but a slight difference exists in the form of the feet (the toes being very long and slender, and closely resembling those of the Bittern), which prevents it from perching with the same ease, and consequently so often on trees, as the other species, and of course from there placing its nest. On the contrary, it builds in the thickest and tallest reeds on the margins of the rivers or lakes it frequents. It is stated to lay three eggs, of a pale bluish-green colour, and not quite so large as those of the Common Heron. It feeds upon fish, frogs, and other reptiles and insects, and

Nest, &c.

Food.

* Since writing the above, I have heard of three other specimens, two killed in Norfolk, and another near to London.

occasionally upon the smaller *Mammalia* that come within its reach.

PLATE 3. Represents the male, in the plumage of maturity, and about three-fourths of the size of nature.

The bill (except the culmen, which is brown) is of a fine gamboge-yellow; lores the same; irides pale yellow. The head, and occipital crest (which is formed of long acuminate feathers) are ink-black, in some lights tinged with green. A list of black also runs from the back part of the neck, for about two-thirds of its length. From the posterior angle of the mouth, a narrow list of black proceeds backwards to the nape, and another down each side of the neck. The front of the neck is spotted with black, white, and purplish-red. The plumes towards the bottom of the neck are long and acuminate, of a pale grey, or greyish-white colour, tinged with purple. The space behind the eyes, and the sides of the neck (with the exception of the black lists) are of a rich reddish-brown. The chin and throat pure white. The shoulders are adorned with feathers of a rich reddish-brown, tinged with lavender-purple. The breast purplish-red. The margins of the wings are white. The back, wing-coverts, flanks, and tail are grey, tinged with purple and green. The scapulars are long, semi-lacinated, and of a deep lavender-purple. The belly and abdomen are greyish-black. The thighs reddish-brown. The naked part of the tibia, the hinder part of the tarsus, and under parts of the toes, are yellow. The front of the tarsus, and upper parts of the toes, are brown, tinged with yellowish-green. The nails are long, semi-falcate, and black.

General
description.

The young, until three years old, are without the occipital crest, as well as the elongated feathers at the base of the neck, and in the scapulars. The chin is white, the forehead blackish-grey; the crown and occiput grey,

tinged with reddish-brown. The neck is pale reddish-brown, without the black lists. The front of the neck is yellowish-white, with longitudinal black spots. The back, scapulars, wings, and tail deep-grey; the feathers margined with reddish-brown. The belly and thighs are reddish-white. The upper mandible is blackish-brown; the under one, the lores, and eyes, are pale yellow.

As the young bird advances towards maturity, the tints become purer in colour, and it approaches, by degrees, to the fine plumage that distinguishes the adult.

GREAT WHITE HERON.

ARDEA ALBA, Linn.

PLATE IV.

- Ardea alba*, Linn. Syst. 1. 239. 24.—Gmel. Syst. 1. 639.—Lath. Ind. Orn. 2. 695. 65.—Wagler, Syst. Av. 1. sp. 3.
Ardea candida, Briss. 5. 428. 15.
Ardea alba major, Rott Syn. p. 99. A. 4.
Ardea Egrettoides, Gmel. Reise, 2. 193. t. 25.
Heron Aigrette, Temm. Man. d'Ornith. 2. 672, but not all the synonyms quoted.
Le Heron blanc, Buff. Ois. 7. 365.
Great White Heron, Br. Zool. 2. 175. t. 62.—Will. (Angl.) 279. t. 49.—Lath. Syn. 5. 91. 60.—Mont. Ornith. Dict. 1.—Id. Sup.
Ardea Egretta, Steph. Shaw's Zool. 11. 543. The American White Heron, or true *Ardea Egretta*, and *Ardea alba*, are here confounded together, and given as the same species.

THE claim of this Heron to the title of a British bird, even as a rare visitant, appears doubtful, and to rest upon vague testimony. WILLUGHBY, whose description possesses all the accuracy and minuteness of a personal examination, does not state how or where the specimen was obtained, nor does he even speak of it as a bird that he had himself ever seen in England. Towards the conclusion of his observations, however, he quotes, upon the authority of ALDROVANDUS, that "a certain Englishman affirmed that he had seen White Herons, though but rarely, which neither, in bigness of body, nor shape, differed at all from the Common Heron;" and then he farther adds, that a Mr JOHNSON, who

had seen the White Heron in England, considered it to be a distinct species, and not an accidental variety of the Common Heron. This supposition, however, unless it were confirmed by actual examination (which does not appear to have been the case), cannot be considered as at all conclusive, since white varieties of the *Ardea cinerea* are known to occur. PENNANT, in his British Zoology, expressly states that it had never fallen within his observation, and merely cites WILLOUGHBY's authority for placing it among the British birds. Other compilers seem to have included it upon no better authority; and no farther evidence appears of its visiting England, till MONTAGU published his Ornithological Dictionary, in which, under the article "Great White Heron," he says, "One of these birds (we are informed by Dr LATHAM) was killed in Cumberland not many years ago." In the Supplement to the same work, he further mentions, that a White Heron was observed in Devonshire, in the autumn of 1805, often in company with three or four of the common sort, and sometimes alone; and that the Rev. Mr VAUGHAN, who had frequent opportunities of observing it, was of opinion, that, from its size, it must have been *Ardea alba*, and not an accidental variety of *Ardea cinerea*. I may add, that I have myself never met with it, nor have I been able to trace an authenticated instance of its capture in any part of Great Britain since the publication of MONTAGU's work. Upon such inconclusive evidence as above mentioned, I dare scarcely venture to insert it even as one of our rarest visitants; but as the possibility, or even probability, of its occasionally visiting these islands is not to be questioned, considering its geographical distribution, I have thought it the safer course to retain it as such, rather than to dismiss it altogether from the list of our Fauna. By many of the later writers, *Ardea alba* has been confounded with *Ardea Egretta*, an American species, and apparently its representative in the New World. Even TEMMINCK, whose character as a descriptive ornithologist stands deservedly in the high-

Rarest visitant.

est estimation, has failed in pointing out the distinctive characters of the two species, and considers them in his Manual as identical, in which he has been followed by STEPHENS and others. WAGLER, however, whose skill in detecting, and accuracy in delineating, specific distinctions, merit the highest praise, has marked, with much precision, the characters of each; and WILSON, who describes the *Ardea Egretta* in his admirable Ornithology of North America, states his conviction, from a comparison of the characters of each, that the European must be a distinct species from that which he describes. The White Heron inhabits the eastern parts of Europe, and is found in abundance upon the shores of the Caspian and Black Seas. It is plentiful in Turkey, Hungary, Russia, and Poland; and is also met with in Sardinia and Greece. It does not appear that its geographical distribution extends to Africa, the White Heron of that country, frequently confounded with it, being a different species, described by WAGLER under the title of *Ardea flavirostris*. In the mature state, the Great White Heron is adorned with long plumes, which form a train, hanging over and beyond the tail: the feathers which compose it take their rise on the back, from behind the shoulders, and consist each of a strong shaft, with long hair-like lacinated silky webs. These feathers, as well as those of the Lesser Egret (*Ardea garzetta*), were formerly in great request as plumes for the head, and to adorn other parts of dress, and are still much worn by the Turks, and other eastern nations. The bird, when irritated or frightened, is in the habit of erecting these long dorsal feathers. Its manners greatly resemble those of its congeners, and its food is similar, consisting of fish, reptiles, insects, &c. It is stated to build its nest in the marshes, among reeds, and other aquatic herbage, and not upon trees, and to lay four or five large bluish-green eggs.

Food.

Nest, &c.

General
description.

PLATE IV. The whole of the body is pure white. A short crest depends from the occiput. In the adult bird, and

when in the summer plumage, a course of long plumes spring from the back, immediately behind the shoulders, and hang over the tail. The webs of these feathers are long, divided, hair-like, and silky, and are similar in their formation and texture to those of the Lesser Egret (*Ardea garzetta*) and the American Great Egret (*Ardea egretta*). The bill is of a deep wood-brown colour, becoming more tinged with yellow about the nostrils. The culmen is blackish-brown. The lores and orbits are greyish-green: irides orange-yellow. The legs and toes are yellowish-brown, tinged with red. The young, and adults previous to the spring-moulting, are destitute of the long dorsal plumes; and the legs of the former are of a greenish-black colour; their bill blackish-green, tinged with yellow.

The adult bird measures three feet four or five inches in length; the bill about six inches; the tarsi eight inches; and the naked part of the tibia four inches and a half long.

LITTLE EGRET HERON.

ARDEA GARZETTA, Linn.

PLATE V.

- Ardea garzetta*, Linn. Syst. 1. 937. 13.—Gmel. Syst. 1. 628.—Lath. Ind. Ornith. 2. 694. 64.—Wagler, Syst. Av. 1. sp. 10.—Shaw's Zool. 11. 545.
—Temm. Man. d'Ornith. 2. 574. but not all his synonyms.
Ardea nivea, Gmel. Reise, 1. 164.
Ardea xanthodactylos, Gmel. Reise, 3. 253. the young.
Ardea alba minor, Will. young.
Egretta, Briss. 5. 431. 16.
Garzetta, Raii Syn. 99. 5.—Will. 206.
L'Aigrette, Buff. Ois. 7. 372. 20.
Heron garzette, Temm. Man. d'Ornith. 2. 574.
Lesser White Heron, Will. (Angl.) 280. 5.
Little Egret, Br. Zool. App. t. 7.—Arct. Zool. 2. No. 347.—Lath. Syn. 5. p. 90. 59.—Mont. Ornith. Dict.—Shaw's Zool. 11. 545. pl. 41.

IF the birds mentioned in the bill of fare at the famous feast of Archbishop NEVILLE, in the reign of HENRY IV.

under the name of Egrets or Egrittes, were of this species, it must have been extremely abundant at that period, to have admitted of a thousand being served up at a single entertainment. I am, however, much inclined to favour the opinion of Dr FLEMING, as advanced in his History of British Animals, and to think that some other bird was there signified, most probably, as he suggests, the Lapwing or *Pewit* (*Vanellus cristatus*), which also possesses a long occipital crest, and which always has been, and still continues to be, remarkably plentiful throughout Britain. For otherwise (as he says), under the supposition that the *Ardea garzetta* was the bird alluded to, it is very difficult to account for the silence of our early writers in regard to this species being native in Britain. WILLOUGHBY, in his description of the Lesser White Heron (which is without doubt the bird now under consideration), expressly states, that the specimen from which it was taken was obtained in Venice; and he never even alludes to this bird as inhabiting or visiting the British Islands. PENNANT is the only writer who adduces any evidence of the Egret having been killed in Britain; and even that evidence is far from being conclusive, as it only amounts to his having once received from Anglesea the feathers of a bird shot there, which he conjectured to be those of the Egret. Under these circumstances, its claim to rank as a British bird stands upon nearly the same ground as that of the preceding species (*Ardea alba*), or the Great White Heron. Its geographical distribution is confined to the Old World; but it is represented in America by a closely-allied species (with which by some authors it has been confounded), viz. *Ardea Carolinensis* of WILSON's North American Ornithology (*Ardea candidissima* of WAGLER).

Rarest vi-
sitant.

In Europe it is sometimes found in Germany, where it is migratory; as also in France and Italy. It abounds in the East—Russia and Poland; and also occurs in Sicily

and Sardinia. It inhabits the confines of Asia; and, in Africa, is met with in Nubia and Egypt.

In its modes of life, it resembles its congeners, and builds among the reeds of lakes and marshes, laying from four to Food, &c. six bluish-white eggs.

PLATE V. The body is entirely white. The occiput is crested, and has (when in perfect plumage) two or three long narrow subulated feathers. The lower part of the neck is also adorned with long pendant feathers, slightly decomposed towards their tips. From the back, behind the shoulders, arises a course of long plumes, each composed of a strong elastic shaft, with long, decomposed hair-like silky webs, which move with the slightest breath of air. The ends of these feathers curl upwards, and form (as in *Ardea alba*) a beautiful train, which the bird, when suddenly disturbed, generally erects. The bill is black, as is also the naked part of the tibia, and upper half of the tarsus; the remainder of the tarsus and the toes being yellowish-green. The lores are greenish-yellow.

General
description.

The young are without the long subulated feathers of the occiput, and lower part of the neck, as well as of those which form the train of the mature bird; and the lower mandible is white for more than half its length from the base.

In maturity, this bird measures from one foot ten inches to two feet long. The bill, measuring from the corners of the mouth, is rather more than three inches: the tarsi four inches; and the naked part of the tibia about two inches and a quarter in length.

BUFF-BACKED HERON.

ARDEA RUSSATA, Wagler.

PLATE V. *

*Ardea russata, Wagler, Syst. Av. part i. sp. 12.**Ardea affinis, Horsf. in Linn. Trans. 13. 189. sp. 4.**Ardea minor alia vertice croceo, Aldrov.**Ardea æquinoctialis, var. B. Lath. Ind. Orn. 2. 697.**Ardea comata, var. B. Lath. Ind. Orn. 2. 687. sp. 39.**Le Crabier de la cote de Coromandel, Buff. Pl. Enl. 910.**Ardea æquinoctialis, Steph. Shaw's Zool. 11. 571. pl. 43, but not the synonym.**Little White Heron, Mont. Orn. Dict. Sup. but only a part of the synonym.*

Rarest visitant.

THE confusion in which the history of this species has been involved, by the appropriation of synonyms to which it had no claim, has been removed by the fortunate discrimination of WAGLER, in the first part of his "Systema Avium," under genus *Ardea*, where those only are quoted which can strictly be referred to it. The geographical distribution of this Heron embraces the three divisions of the ancient world, being found in the warmer parts of Europe, and also in Asia and Africa. In America it is not known, the *Ardea æquinoctialis*, with which it has been confounded, being a species perfectly distinct, and confined to that continent. In Britain, it is a rare visitant; and the first instance of its capture is recorded by MONTAGU, in the 9th vol. of the Transactions of the Linnean Society, under the title of *Ardea æquinoctialis*. He afterwards described it more fully in the Supplement to the Ornithological Dictionary, under the name of the "*Little White Heron*." This specimen, which was a female, and apparently in the plumage of the first year, was shot in October 1805, near to King's-bridge, in the southern part of Devonshire, where it was seen for several days previous in the same field, amongst some cows, and picking up insects. Of its habits, I am unable to give any account. The following is MONTAGU's descrip-

"The length about twenty inches. The bill two inches long to the feathers on the forehead, and of an orange-yellow; the lore and orbits the same: irides pale yellow. The whole plumage snowy white, except the crown of the head, and the upper part of the neck before, which are buff. Legs three inches and a half long, and one inch and a half of bare space above the knee: these parts are nearly black, with a tinge of green; the toes and claws are of the same colour; the middle claw pectinated."

General
description.

In the adult, the occiput, nape, and hinder part of the neck is clothed with rigid open feathers of a saffron-yellow. Throat, front part of the neck and breast, white, tinged with sienna-yellow. Long flowing plumes of the back ochre-yellow. Wings, tail, and under parts of the body, pure white.

SQUACCO HERON.

ARDEA RALLOIDES.

PLATE VI.

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|--|------------------------------|
| Ardea [†] Ralloides, Scop. Ann. 1. No. 121.—Temm. Man. d'Ornith. 2. 581.—
Shaw's Zool. 11. 573.—Wagler, Syst. Av. 1. sp. 27. | } Adult of
both
Sexes. |
| Ardea comata, Pall. Reise, 2. 715. 31.—Lath. Ind. Ornith. 2. 687. 39, but
not his var. B. | |
| Ardea Squaiotta, Gmel. Syst. 1. 634.—Lath. Ind. Orn. 2. 686. 36. | |
| Ardea Castanea, Gmel. Syst. 1. 633.—Lath. 2. 687. 40. | |
| Le Crabier de Mahon, et Crabier calot, Buff. Ois. 7. 393. and 389. | |
| Heron Crabier, Temm. 2. 581. | |
| Cancrofagus luteus, Briss. Orn. 5. 472. 37. | |
| Rallen Reiher, Bechst. Naturg. Deut. 4. 47. | |
| Squaiotta and Castaneous Heron, Lath. Syn. 5. 72. & 75. | |
| Squacco Heron, Lath. Syn. 6. 74. 39.—Sup. 2. 302. 9.—Mont. Ornith.
Dict. Sup.—Flem. Br. Anim. 1. sp. 5.—Shaw's Zool. 11. 573. | |
| Ardea erythropus, var. B. Lath. Ind. 2. 686. 38. | } Young. |
| Ardea pumila, Lath. 2. 683. 28. | |
| Ardea Senegalensis, Gmel. Syst. 1. 645.—Lath. Ind. 2. 684. 30. | |
| Ardea marsigli, Gmel. Syst. 1. 637.—Lath. Ind. 2. 681. 20. | |
| Cancrofagus rufus, Briss. Orn. 5. 469. 35. | |
| Le Petit Butor du Senegal, Buff. Ois. 7. 393. | |
| Le Crabier Marron, Buff. Ois. 7. 390. | |
| Red-legged Heron, Lath. Syn. 5. 73. 38. | |
| Dwarf Heron, Lath. Syn. 5. 77. 42. | |
| Senegal Bittern, Lath. Syn. 5. 67. 29. | |
| Swabian Bittern, Lath. Syn. 5. 60. 20. | |

As several well authenticated instances of the capture of this species of Heron have occurred in England, I have not the same hesitation in giving it a place in the list of British Birds, as an occasional visitant, that I have expressed with regard to the two preceding species. In addition to the specimen shot at Boyton in 1797, of which a drawing was presented to the Linnean Society by Mr LAMBERT, as recorded in the minutes of the 3d volume of their Transactions, another was killed in Cambridgeshire about twelve years ago, which, from a drawing sent to me, appears to have been a fine adult bird, in perfect plumage; and a third, a female (of which I likewise obtained a correct drawing, of the natural size), was shot in the summer of 1825, near Bridgewater in Somersetshire *. The short neck of this species (as well as of *Ardea Agami*, *Ardea speciosa*, &c.) clothed with lax and longer feathers than the more typical Herons, and the decreasing length of the tarsus, indicate an approach to the succeeding group of Bitterns, which, in accordance with the views of the first ornithologists of the day, I consider entitled to a generic distinction. The economy of this species is similar to that of the other members of the family, inhabiting marshes, and the margins of seas, lakes, and rivers, and subsisting on small fish, reptiles, crustaceous animals, and insects. It is found in all the three divisions of the old world. In Europe, its distribution extends to most of the southern districts, but in the northern it is very rare or quite unknown. Upon the confines of Asia it is abundant, and (according to the report of travellers) equally so in Egypt, Nubia, and other parts of Africa. It builds in trees; but the number, size, and colour of its eggs, are yet unknown.

PLATE VI. Represents a mature bird, of the natural size.

The forehead, crown, and occiput, are of a sienna-yellow

Since writing the above, I have been informed that two of these birds killed near to Yarmouth, in the month of May 1831.

colour, each feather being bordered with black. From the nape of the neck proceed eight or ten long, narrow, subulated feathers, which hang down as low as the back; they are white, with a narrow border of black on each side. The chin and throat are also white; the rest of the neck and the breast sienna-yellow. From the upper part of the back, immediately behind the shoulders, proceed long feathers, with open, hair-like decomposed barbs; these cover the whole of the back and scapulars, equalling the tail in length; their colour is a deep sienna-yellow, tinged towards the upper part of the back with lavender-purple. The wings and scapulars are white, slightly tinged in parts with pale sienna-yellow. The abdomen, vent, thighs, rump, and tail are pure white. The bill, for nearly two-thirds from its base, is pale azure-blue; the remainder black. The lores are greenish-yellow. The irides bright sulphur-yellow. The legs dusky, tinged with red. The under part of the toes, and about the tarsal joint, greenish-yellow. In the mature state, the plumage of both sexes is alike; but the crest of the male bird is generally longest.

The young have not the occipital crest; and the entire plumage of the head and neck and the wing-coverts are of a wood-brown colour, with longitudinal streaks of a darker hue. The dorsal plumes are wanting, and the upper part of the back and the scapulars are brown. The throat, rump, and tail, are white; the quills have their exterior webs ash-grey, and their interior ones white. The upper mandible is brown, tinged with oil-green; the under one yellowish-green. The lores are greenish-grey. Legs and toes yellowish-green.

GENUS BOTAURUS. BITTERN.

GENERIC CHARACTERS.

Bill of the same length, or rather longer than the head, strong, higher than broad, the mandibles of equal length, the upper rather deeper than the under one, sulcated for two-thirds of its length, and gently curving from the base to the point. Culmen broad, and flat at the base, but becoming narrow and rounded from before the nostrils to the tip. Under mandible strong, tapering to the point, its angle trifling and indistinctly marked. Tomia of both mandibles even, bending inwards, very sharp, and finely serrated near the tip. Chin-angle reaching beyond the middle of the bill. Lores and orbits naked.

Nostrils basal, linear, and longitudinal, placed in the furrow of the maxilla, and partly covered by a naked membrane.

Legs of mean length; toes long and slender, all unequal; the middle toe of equal length with the tarsus; hind toe long, articulated with the interior toe, and on the same plane; claws long, subfalcate, that of the middle toe pectinated.

Front of the tarsus scutellated; back part of the tarsus reticulated.

Wings long, rounded; the three first quills the longest, and those nearly equal.

In plumage, the hinder part of the neck covered with down; the sides and front with long lax feathers, which can be expanded laterally at pleasure. No elongated feathers on the hinder part of the head, or on the back.

Till very lately, the Bitterns have formed a section of the genus *Ardea* in ornithological systems; but as they possess

characters distinct from that genus (as now defined), I have adopted the views of some naturalists of the present day, and given them a generic title, believing that a determinate name applicable to the group is better calculated to promote the ends of science, and facilitate the study of this interesting branch of natural history, than the adoption of sections and subsections.

The Bitterns differ from the Herons in having a much shorter neck, and in the hinder part of it being clothed with down, and the front and sides with long feathers which they can occasionally raise; and which peculiar distribution of plumage is essential to their economy, enabling them without inconvenience to bend and retain the neck in the position generally assumed when at rest, or when they move through the long grass and reeds in search of their prey. In this attitude the long side-feathers of the neck meet behind, and completely cover the downy part, which, upon the extension of the neck, is left open and exposed. In these birds the bill also is shorter, stronger, and slightly arched; the tarsi are shorter, and the tibiae are covered with feathers as far, or nearly so, as the tarsal joint. The plumage of most of the species is spotted or rayed. They are solitary birds, and inhabit extensive woody marshes where reeds and other thick aquatic plants abound. Their food consists of worms, insects, frogs, reptiles, and small fish; and, being nocturnal feeders, they are seldom seen on wing, except during evening or twilight.

COMMON BITTERN.

BOTAURUS STELLARIS, Steph.

PLATE VIII.

- Botaurus stellaris, Steph.* Shaw's Zool. v. 11. 593. Pl. 45.
Botaurus, Briss. Orn. 5. 444. 24. Pl. 37. f. 1.
Ardea stellaris, Linn. Syst. 1. 239. 21.—*Lath.* Ind. Orn. 2. 680. 18, but not
 var. B.—*Raii* Syn. 100. A. 11.—*Will.* 207. 1. 50. 52.—*Flem.* Br. Anim.
 1. 95. 127.—*Wagler*, Syst. Or. 1. sp. 3.
Le Butor, Buff. Ois. 7. 411. 21.
Heron Grand Butor, Temm. Man. 2. 580.
Grosse Rhordrommel, Bechst. Naturg. Deut. 4. 63.
Bittern, Br. Zool. 2. No. 174.—*Will.* (Angl.) p. 282.—*Lath.* Syn. 5. 56. 17.
 —*Id.* Sup. 234.—*Mont.* Ornith. Dict. and Sup.—*Bewick's Br. Birds*, 2.
 47.—*Shaw's Zool.* 11. 593. Pl. 45, &c.

PROVINCIAL—Miredrum, Bull of the Bog, Butter-bump, Bumpy-
 Cop, Bog-jumper, Bog-blutter, Bittour.

THE Bittern has lately become, in most parts of Britain, a bird of comparatively rare occurrence, and is now, as a permanent resident, principally confined to the fens and marshy districts of some of the eastern counties. This desertion has, without doubt, been greatly caused by the system of draining now so prevalent throughout the kingdom; a natural consequence of the improvements in agriculture, and the enclosure of waste lands. Previous to such improvements, it appears to have been very generally, if not numerously, dispersed, if we may judge from the various provincial names it has acquired, and was the well known and (by the superstitious) dreaded inhabitant of all the marshes and extensive quagmires throughout the country. At the present day, the capture of a Bittern is, in many parts of England, a subject of great interest; and perhaps, with the exception of a few breeding in the marshes of Lincolnshire, Cambridgeshire, and Norfolk, the stragglers that are met with in other parts

of the island are not birds permanently resident, but such as visit us during the course of their migration from other countries; as the instances of their being taken now generally occur during the later autumnal or the winter months. This has been particularly the case in the present winter (1830-1), during which a more than usual number of Bitterns has been killed in various parts of the kingdom; and I am credibly informed, that no less than ten were exposed for sale in one morning at Bath.

The habits of the Bittern are solitary, and, being a night-feeding bird, it remains quiet during the day, concealed in the reeds and long herbage of its marshy haunts. In this state, it generally sits closely squatted, with the neck bent, so that the head rests between the shoulders; and, when thus dosing, and digesting the meal of the previous night, it will frequently allow itself to be nearly trodden upon before it will take wing, or endeavour to escape; and even when roused, it seldom flies to any considerable distance. When wounded or surprised, and unable to escape, it defends itself with vigour, and as it always aims at the eyes of its enemy with its strong and sharp-pointed bill, a considerable degree of caution must be used in capturing it. When attacked by a dog, it throws itself upon its back, like the Owls and other raptorial birds, and strikes with its claws as well as with its bill; and in this manner it will keep the most resolute dog at bay, as the infliction of a stroke or two of the latter spear-like weapon is commonly sufficient to keep him afterwards at a respectful distance. The Bittern used to afford excellent sport in falconry; for when flown at, it immediately begins to soar, rising in spiral circles, and endeavouring to keep above its enemy. Should this manœuvre fail, it then prepares for the descent of the Hawk, by setting its sharp bill perpendicularly upwards, upon which its impetuous antagonist frequently transfixes itself, or is so severely wounded as to be obliged to give up a second attack. The bellowing or booming noise of the Bittern is confined to the pair-Habits.

ing season, which commences in February, or the beginning of March. At this time, on the approach of twilight, it leaves its place of resort during the day, and rising in a spiral direction, soars to a very great height, uttering at intervals the peculiar cry, that in former days was heard with superstitious dread. It also makes the bellowing noise when on the ground, to assist in the production of which extraordinary note, it was supposed to thrust its bill into the hollow of a reed,—an idea not at all probable, and unsupported by any confirmatory evidence.

Nest, &c.

The nest of the Bittern is generally placed very near to the water, among the thickest reeds or long herbage, and is composed of a large mass of reeds, sticks, &c. containing four or five eggs of a pale asparagus-green colour, from which, in the course of twenty-five or twenty-six days, the young are produced. These, as may be supposed, are at first very shapeless, being naked, and the neck, head, and legs appearing quite out of proportion to the other parts of the body. They are fed by the parents till fully fledged, and do not quit the nest until nearly able to provide for themselves.

Food.

The food of the Bittern consists of water-insects, reptiles, fish, and small mammalia, particularly moles, mice, and shrews. Young birds also are frequently devoured by it, and Sir WILLIAM JARDINE informs me, that he once took a whole *Water-Rail* out of the stomach of a Bittern;—a fact, however, not extraordinary, when we consider that the gape of this bird is very wide, and will stretch to a great extent, the commissure of the bill reaching behind the line of the eyes, and the œsophagus being, through its whole length, capable of much distention. The Bittern, in earlier times, was greatly esteemed as a luxury for the table, and even now it brings a good price, when exposed for sale. The flesh is dark-coloured, but not coarse in texture, and the flavour partakes of that of the Hare, combined with the peculiar taste of what are usually termed *Wild Fowl*. Its geographical distribution seems confined to Europe, extending

nearly to the confines of Asia; and it is most abundant in such countries as are intersected by water, or possess extensive swamps or marshy woods. In the colder countries of Europe it is regularly migratory, but it is permanently resident in the warmer parts of the continent. Its internal anatomy exhibits nothing very particular. The annular cartilages of the windpipe are not entire, but semicircular; the other part being supplied by a thin soft membrane; and, like many other kinds belonging to this family, it has but one cæcal appendage, about half an inch in length. From the researches of Dr BARROW on the arterial system of birds, it appears that Messrs MEHEL and NITZSCH are in error in describing the two common carotid arteries of this bird as uniting into a single trunk, as, in fact, they only appear to do so from the close adhesion that takes place where the one passes behind the other.

PLATE 8. Represents the Bittern in a position in which it does not seem to have been previously figured, but one always assumed when at rest, or when seeking its prey amongst reeds or long herbage. In this posture the neck is bent in the form of a flattened letter S, with the head resting nearly between the shoulders. The long side-feathers of the neck are thus brought together, and form a close and compact covering, leaving none of the bare or downy part exposed, which latter must be the case, if the bird kept the neck in the state of extension in which it is usually depicted. This position of the head is also the most advantageous for the ready capture of its prey, as it is always prepared to dart its bill forward, like a javelin from its poise, the moment that the desired object is within its reach. The present figure is of the natural size.

The crown of the head is black, glossed with bronzed green; the feathers of the occiput are margined with cream-yellow, and rayed with black. From the angle

General
descrip-
tion.

of the mouth proceeds a broad streak of black and dark brown. The whole of the plumage is of a sienna-yellow, or pale buff colour, rayed and varied with black and reddish-brown. The sides of the neck are barred transversely with dark brown; the front with large longitudinal streaks of red-brown, intermixed with blackish-brown. The feathers of the breast are glossy black, deeply margined with buff; those of the belly and abdomen are buff, with narrow longitudinal streaks of brownish-black. The quills are brownish-black, barred with reddish-brown. Tail short, reddish-brown, barred with black. The bill is yellowish-green; the culmen darker; the orbits and angles of the mouth yellow. Legs and toes pale grass-green; the claws (which are very long, particularly that of the hind toe) of a pale horn colour; the middle one pectinated. The tibia is clothed with feathers to within half an inch of the tarsal joint.

AMERICAN BITTERN.

BOTAURUS MOKOHO, Vieill.

- Ardea mokocho*, Wagler, Syst. Av. part 1. sp. 29.
Botaurus lentiginosus, Steph. Shaw's Zool. 11. 596. p. 46.
Ardea lentiginosa, Mont. Ornith. Dict. Supp.
Ardea stellaris, var. B. Lath. Ind. Orn. 2. 680. sp. 13.
 Freckled Heron, Mont. Ornith. Dict. Supp.
 Freckled Bittern, Shaw's Zool. 11. 596. Pl. 46.
 American Bittern, Wils. Orn. 8. 35. t. 65. f. 3.
 The Bittern from Hudson's Bay, Edwards, 3. p. t. 136.

Rare visitant.

IN the supplement to MONTAGU'S Ornithological Dictionary, a bird is described under the title of the Freckled Heron (*Ardea leutiginosa*); as the author was unable at that time to refer it to any known species, though he suspected it might be the female of some of the rarest European Herons. Subsequent investigation has proved it to be identical with

the American Bittern described by WILSON in his admirable work on the Birds of North America, and the Hudson's Bay Bittern figured by EDWARDS, and referred to by LATHAM as a variety of *Ardea* (*Botaurus*) *stellaris*. This specimen, which was shot in the parish of Piddleton in Dorsetshire, in the autumn of 1804, passed into MONTAGU's possession, and is now, with the rest of his collection, deposited in the British Museum. No subsequent instance has occurred of its capture in England. The habits and manners of this species, according to WILSON*, are similar to those of the Common Bittern, which, in figure, size, and colour, it nearly resembles. It inhabits marshes, the banks of lakes, rivers, &c. where it remains at rest during the day, concealed in the thick reeds, &c.; as it is, like the rest of this group, a nocturnal feeder, and only roused into activity by the departure of daylight. When surprised, or driven from its retreat, it emits like the Bittern a sound something like the tap on a drum,—a fact observed by Mr CUNNINGHAM, the gentleman who shot the individual above mentioned. It is common in North America, extending from the Carolinas as far as Hudson's Bay, where it arrives in May as a summer visitant.—It breeds in the marshes among the reeds and swampy herbage, Nest, &c. and the eggs are stated to be of a pale bluish-green colour.

For a minute description of the plumage of this bird, I must refer my readers to MONTAGU's work.

* See WILSON's North American Ornithology, article *American Bittern*.

LITTLE BITTERN.

BOTAURUS MINUTUS.

PLATE VI.* Fig. 1. 2.

- Old of both sexes. { *Ardea minuta*, *Linn. Syst.* 1. 240. 26. B.—*Lath. Ind.* 2. 683. 27.—*Steph. Shaw's Zool.* 11. 589. pl. 44.—*Flem. Brit. Anim.* 1. 97. 6.
Ardeola, *Briss. Orn.* 5. 497. 46. t. 40. f. 1.
Le Blongios de Suisse, *Buff. Ois.* 7. 395.
Heron Blongios, *Temm. Man. d'Ornith.* 2. 584.
Kleiner Reiher, *Bechst. Naturg. Deut.* 4. 71.
Little Bittern, *Br. Zool. app.* 663. pl. 8.—*Lath. Syn. Sup.* 235.—*Mont. Orn. Dict. and Sup.*—*Pult. Cat. Dorset.*—*Bewick's Br. Birds*, 2. pl. 51.
Little Heron, *Shaw's Zool.*
- Synonyms of young, different ages. { *Ardea Danubialis*, *Lath. Ind.* 2. 681. 21.
Botaurus striatus, *Briss.* 5. 454. 27.
Le Butor brun rayé, *Buff. Ois.* 7. 424.
Rayed Bittern, *Lath. Syn.* 5. 61. 21.
Ardea soloniensis, *Lath. Ind.* 2. 681. 19.
Botaurus rufus, *Briss.* 5. 458. 29.
Le Butor Roux, *Buff. Ois.* 7. 425.
Rufous Bittern, *Lath. Syn.* 5. 60. 19.

PROVINCIAL,—Boonk, or Long Neck.

Very rare
visitant.

THIS is one of the smallest of the *Ardeadeæ*, scarcely equaling, in bulk of body, the *Spotted Crake*, or the *Water Rail*. In England it is a very rare visitant; not more than five or six having come under the notice of our naturalists. Three of these MONTAGU mentions, as having been killed in Devonshire, in the course of the summer of 1808; another is recorded by Dr FLEMING, as killed at Sunda, one of the Orkney Islands, in the winter of 1805; and PENNANT has introduced this bird into the Appendix to his *British Zoology*, in consequence of an adult specimen, which was shot as it perched upon a tree on the banks of the Severn, at Shrewsbury. To this list may be added another instance, in which a Little Bittern was killed at Blagdon, in Northumberland, the seat of Sir M. W. RIDLEY, Baronet, in May 1810; and figured by BEWICK, in his *Supplement to the British Birds*.

Though deviating in some respects from the typical form of *Botaurus*, particularly in the length and straightness of the bill, which approaches closely to some of the smaller aberrant species of the genus *Ardea* (and forming the passage, as it were, from one group to the other), I have thought it better to be retained in that genus to which its affinity appears the strongest, and where the proportion and form of its legs and feet, and the clothing of its neck, indicate the true Bittern. This bird is an inhabitant of woody marshes, particularly where reeds and other aquatic herbage grow very thick, amongst which it passes a solitary life, feeding upon frogs, Food. the fry of fish, insects, and reptiles; and seldom taking wing, unless when suddenly disturbed. Its usual position, when at rest, is that of sitting upon the whole length of the tarsus, with the neck bent, the head thrown back, and the bill pointing almost perpendicularly upwards.—It breeds among Nest, &c. rushes, or upon hummocks in the marshes, making a large nest of broken reeds, grass, and other dry materials, and lays five or six eggs of a pale asparagus-green colour. It is found in most of the temperate continental parts of Europe, and also in Asia and Africa, wherever there are localities suitable to its habits. It does not exist in America, but is represented by a very nearly allied species, *Ardea exilis*.

PLATE 6.* Fig. 1. represents the adult bird of the natural size.

The crown of the head, the back, scapulars, exterior webs of the secondary quills, and the tail, are black glossed with green. The cheeks and neck of a pale sienna-yellow, tinged with lilac-purple. The wing coverts sienna-yellow; with the throat, and under wing coverts white. The under parts of the body are reddish-white, with a few hair-brown streaks upon the flanks. The greater quills are greyish-black. The bill, from the forehead, is two inches long, of a gamboge-yellow colour; with the culmen and tip brown. The

General
description.
Adult
bird.

legs and toes are wax-yellow, tinged with green. The tibiae are clothed with feathers to the tarsal joint. The male and female are alike.

Young
bird.

Fig. 2. The young bird after the first moulting.

The crown of the head is blackish-green. The back and scapulars chesnut-brown, margined with yellowish-white. On each side of the throat is a spot of white. Front part of the neck yellowish-brown, mixed with streaks of white; sides of the neck reddish-brown. Feathers of the breast deep liver-brown, with a glossy lustre; and margined with yellowish-white. Belly and flanks yellowish-white, with streaks of brown. Tail blackish-green. Legs pale olive-green. Bill yellowish-brown.

GENUS NYCTICORAX. NIGHT-HERON.

GENERIC CHARACTERS.

Bill very strong, rather longer than the head, compressed; the upper mandible curving towards the point, and slightly bulging towards the base; maxilla sulcated for three-fourths of its length, and emarginated; culmen rounded; tomia of both mandibles strait and sharp, that of the under mandible entering within the upper one. Nostrils basal, longitudinal, placed in the furrow of the maxilla, and covered above by a naked membrane; lores and orbits naked. Legs of mean length, slender; toes, three anterior and one posterior; middle toe not so long as the tarsus; exterior toe connected by a membrane to the middle one as far as the first joint. Claws short, falcated; that of the middle toe pectinated. Tibiae naked for a short space above the tarsal joint.

Wings having the first quill-feather shorter than the second; the third the longest of all. In plumage the occiput

is furnished with a few narrow subulated feathers; canaliculated, and fitted one within the other; and varying in number from two to six, according to the species. Neck short, covered with lax feathers; lower part of the neck behind clothed only with down.

This group of the *Ardeade*, which differs from the Bitterns in the proportions of the bill, and legs, in having the neck covered with shorter feathers, and the hinder part of the head furnished with long canaliculated plumes, has latterly been separated from them, and has also been removed from the genus *Ardea*, under the generic name of *Nycticorax*. Like the Bitterns, these birds are nocturnal feeders; but, in other respects, their economy is different, and approaches nearer to the Herons. Their plumage is not rayed, or varied like that of the typical Bitterns; but in large masses of distinct and opposed colours. The young are very different in appearance from the old birds, and do not attain the plumage indicative of maturity till after the third moulting.

COMMON NIGHT-HERON.

NYCTICORAX EUROPEUS, Steph.

PLATE VII. AND PLATE VII.*

- | | |
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| <i>Nycticorax Europæus</i> , Steph. Shaw's Zool. 11. 609. pl. 47. | } Synonym
of Adult. |
| <i>Ardea Nycticorax</i> , Linn. 1. 235. 9.—Lath. Ind. Orn. 2. 678. 13.—Briss. 5. 493. 45. t. 39.—Raii, Syn. 99. 3.—Wils. Amer. Orn. 7. 101. 61. f. 2.—Wagler, Syst. Av. 1. sp. 31. | |
| <i>Le Bihoreau</i> , Buff. 7. 455. t. 22. | |
| <i>Bihoreau</i> , au Manteau Noir, Temm. Man. d'Ornith. 2. 577. | |
| <i>Der Nacht-Reiher</i> , Bechst. Naturg. Deut. 4. 54. | |
| <i>Ardea Gardeni</i> , Gmel. Syst. 1. 645.—Lath. Ind. 2. 685. sp. 32. | } Synonym
of the
Young of
the year. |
| <i>Butor tacheté</i> ou Pouacre, Buff. 7. 427. | |
| Spotted and Gardenian Heron, Lath. Syn. 5. 70. and 71. sp. 31. and 32. | |
| <i>Ardea Jamaicensis</i> , Gmel. Syst. 1. 625.—Lath. Ind. 2. 679. 14. | |
| <i>Jamaica Night-Heron</i> , Lath. Syn. 5. 54. 14. | |

Synonym
of Young
after first
moult, and
before they
acquire
maturity.

- Ardea grisea, Linn. 1. 239. 22.—Gmel. Syst. 1. 625.
 Ardea Nycticorax form. Lath. Ind. 2. 678. 13.
 Bihoreau la femelle, Buff. Ois. 7. 435.
 Ardea obscura, Lath. Ind. 2. 679. 16.
 Ardea Badia, Gmel. Syst. 1. 644.—Lath. Ind. 2. 686. 37.
 Le Crabier Roux, Buff. Ois. 7. 390.
 Chesnut Heron, Lath. Syn. 5. 73. 37.
 Ardea Cracra, Lath. Ind. 2. 699. 77.
 Cracra Heron, Lath. Syn. 5. 96. 68.
 Night-Heron, or Qua-Bird, Wils. Amer. Orn. 7. 106. pl. 61. fig. 2. and 3.
 Night-Heron, or Night-Raven, Penn. Arct. Zool. 2. 356.—Will. (Angl.)
 279. 3. pl. 49.—Lath. Syn. 5. 52. Do. Sup. 234.—Beuvick's Br. Birds,
 2. 145.—Mont. Ornith. Dict. and Sup.—Shaw's Zool. 11. 609. pl. 47.—
 Flem. Br. Anim. 1. 96. sp. 4.

PROVINCIAL,—Lesser Ash-coloured Heron.

Occasional
visitant.

THE geographical distribution of this singular bird is very widely extended, as its appearance has been recognised in certain localities, in all the four quarters of the globe. In the southern and eastern parts of Europe it is abundant, especially in Hungary; but it becomes of rarer occurrence as it approaches the north, and, in our own Islands, it is only known as an occasional visitant.—The first instance

Habits.

upon record of its being shot here, was one near London, in 1782. In 1798, a notice of the *Gardenian Heron* (or young of this species), shot by Lord Kirkwall, at Thame, in Oxfordshire, was communicated to the Linnean Society; and since that period several specimens of the adult bird have been killed; two of which came under my own observation, viz. a beautiful male, shot by the Earl of Home, at the Hirsell, near Coldstream, in the spring of 1823; and another, now in the Museum of Sir W. JARDINE, Bart., which was killed about two years afterwards in the neighbourhood of Dumfries. Like the Bitterns, these birds feed, and are in activity during the night.—In the day they resort to woods, or to tall trees on the banks of rivers, or in the immediate neighbourhood of the swamps where they procure their food, and on which they quietly roost till the decline of the sun, and the approach of twilight again calls them forth to satisfy the cravings of appetite. In their flight to the feeding ground they frequently utter a hoarse and hollow note, ha-

ving the sound of *qua*, and by some compared to that produced by the retching of a sick person. They live and breed together in societies, selecting the highest trees whereon to build their nests; and seldom breeding upon the ground among marshy spots and reeds, as stated by TEMMINCK. In North America, where the species is very common, the most solitary and shaded part of a cedar-swamp is generally chosen*.—The nest is composed entirely of sticks; Nest, &c. and the eggs, which are generally four in number, are of a pale greenish-blue colour, in size nearly equal to those of the *Common Heron*. As soon as the young have gained sufficient strength, they climb to the tops of the trees, where they are fed by the parents, till they are able to fly, and support themselves.—The food of the Night-Heron consists of fish, Food. reptiles, and the larger aquatic insects; to which may occasionally be added some of the smaller mammalia. Their prey is swallowed whole; the gullet being very large and expansive immediately below the bill, from whence it narrows to the stomach, which is a soft membranous oblong pouch.

PLATE 7. represents the mature bird of the natural size, taken from the above mentioned specimen killed by the Earl of Home, and now in the Edinburgh Museum.

The bill is black, inclining to yellow at the base and gape; the lores and orbits pale greenish-blue (according to WILSON, bluish-white). The irides deep reddish-orange. The crown of the head, nape of the neck, upper part of the back, and the scapulars, are black, with green reflections. The lower part of the back, rump, wings, and tail, of a fine pearl-grey. The sides of the neck are tinged with grey; the forehead, throat, and all the under parts, are white. From the nape of the

General
description.
Adult
bird.

* See WILSON's characteristic and interesting account of this species in his *American Ornithology*, vol. vii. p. 106, article *Night-Heron*, or *Qua Bird*.

neck spring three long narrow subulated white feathers, concave or canaliculated underneath, and fitting one within the other, so as to appear like a single plume; and these the bird can erect at pleasure, when alarmed or irritated. The legs and toes are pale yellowish-green; the claws black, short, and hooked; with that of the middle toe pectinated on its inner side.

PLATE 7. * Is a figure of the *Gardenian Heron* (of authors), thought to have been a distinct species, but now fully ascertained to be the young of the Common Night-Heron, in its first (or nestling) plumage; drawn from a British specimen, in the possession of Mr YARRELL, and kindly lent to me for the purpose.

Young
bird.

In this state it wants the plumes from the nape of the neck.

The culmen and tip of the bill are blackish brown; the base and lower mandible yellowish-green. The irides (according to WILSON) are vivid orange. The head and back part of the neck are brown, with the centres of the feathers yellowish-white. The fore part of the neck and the feathers of the breast are yellowish-white, deeply margined with wood-brown and yellowish-brown. The belly and abdomen are the same. The back and the lesser wing-coverts are deep wood-brown, with sub-triangular yellowish-white streaks occupying the centres of the feathers. The greater coverts and quills are deep wood-brown; their tips with triangular spots of white. The tail is broccoli-brown. The legs yellowish-green.

As the bird proceeds to maturity, it acquires, at each successive moulting, a plumage approaching nearer to that of the adult; and in these intermediate stages has been described as constituting different species, by various writers, as may be seen by the list of synonyms above given.

CAYENNE NIGHT-HERON.

NYCTICORAX CAYENENSIS.

- Ardea Cayenensis*, *Lath. Ind. Orn.* 2. 680. sp. 17.
Ardea violacea, *Linn. Syst.* 1. 238. 16.—*Lath. Ind. Orn.* 2. 690. sp. 50.
Ardea callocephala, *Wagler, Syst. Av.* 1. sp. 34.
Cancrofagus Bahamensis, *Briss.* 5. 481. 41.
Le Bihoreau de Cayenne, *Buff. Ois.* 7. 439.
Le Crabier gris de fer, *Buff. Ois.* 7. 399.
Yellow-crowned Heron, *Penn. Arct. Zool.* 2. 352.—*Lath. Syn.* 5. 80. 46.—
Wils. Amer. Orn. 8. 26. pl. 65. f. 1.
Cayenne Night-Heron, *Lath. Syn.* 5. 56. 16.

I INSERT this species, as an occasional visitant, in consequence of a specimen taken near Yarmouth, in May 1824; and recorded by Mr YOEVELL of that place, in the 14th volume of the Transactions of the Linnean Society. It is an American species, and rather widely disseminated, being found not only upon the Continent, but throughout the greater part of the West Indian Islands. For a detailed account of its habits, I must refer my readers to WILSON'S "American Ornithology," in which they will find the subject treated with the graphic excellence that so remarkably distinguishes his admirable volumes.—Like the Common Night-Heron, it breeds in societies, making its nest in the lower branches of trees in the neighbourhood of swamps and marshes; and lays four eggs, of a greenish-blue colour. The young birds are said to be in much esteem for the delicacy and flavour of their flesh. This species feeds upon fish and reptiles, and (like the rest of the group) during the night; remaining at rest, and concealed, throughout the day.

Occasional visitant.

Nest, &c.

In the adult state, the crown of the head is white or yellowish-white; a stripe of the same passing from the nostrils, beneath the eyes, towards the occiput; the rest of the head is black; ending in a peak behind, from whence depends a crest, composed of two very long white canalicu-

General description.

lated feathers, and four black ones. The neck and under parts of the body pure bluish-grey. Back, wings, and tail, of the same colour, but darker; the feathers of the back having a black streak running down their centres. Wing-coverts spotted with white. Train bluish-grey.

GENUS CICONIA. STORK.

GENERIC CHARACTERS.

Bill long, straight, strong, thick, subconic, pointed, much higher than broad; culmen cultrated; the angle of the under mandible rather ascending; the upper mandible gently descending to its end, which is pointed and sharp. Mandibles of equal length; the upper deeper than the lower; tomia straight, entire; those of the upper mandible bending slightly inwards. Nostrils linear, egg-shaped, at a short distance from the base of the bill, pierced in the horny substance. Tongue very short, narrow, entire, placed in the gape. Orbits naked.

Legs long; part of the tibia naked. Feet four-toed; front of the tarsi reticulated, or covered with hexagonal scales; toes of mean length; middle toe one-third of the length of the tarsus, and joined to the exterior one by a large membrane, reaching as far as the *second*, and to the interior as far as the *first* joint. First joints of the toes covered with hexagonal scales; the remainder imperfectly scutellated. Hind toe short, incumbent, articulated opposite to the base of the interior toe. Claws short, blunt, entire. Tail equal, of mean length, and composed of twelve feathers.

Wings long, with the first quill shorter than the second, and the third and fourth the longest. In plumage, the upper parts of the body are covered with close-set feathers, truncated at their ends.

My readers will observe that these generic characters are not applicable to all the species of the genus *Ciconia* of

BECHSTEIN, CUVIER, TEMMINCK, and WAGLER, but only to that group of which *Ciconia alba* may be considered the type. The larger species, viz. *Ciconia Marabou*, *Argala*, *Mycteria*, &c. seem to me possessed of characters sufficiently distinct to warrant such a separation, a fact indeed admitted by the necessity under which these authors have found themselves of subdividing their genus into sections. The Storks are inhabitants of marshy districts, and are gregarious. In many countries they are migratory, and their journeys are performed in immense flocks. Their food is fish, reptiles, small mammalia, young birds, &c., and their appetite is very voracious. In most countries where they occur, they are protected and highly esteemed by the inhabitants for their utility in the destruction of noxious reptiles and vermin.

WHITE OR COMMON STORK.

CICONIA ALBA, Bellon.

PLATE XI.

- Ciconia alba*, Briss. Orn. 5. 365, 2. pl. 32.—Raii, Syn. 97. A.—Shaw's Zool. 11. 617. pl. 48.—Wagler, Syst. Av. 1. sp. 8.—Bechst, Naturg. Deut. 4. 82. *Ardea Ciconia*, Linn. Syst. 1. 235. 7.—Gmel. Syst. 1. 622.—Lath. Ind. 2. 676. 9.
Cicogne blanche, Buff. Ois. 7. 253. t. 12.—Temm. Man. d'Ornith. 2. 560.
 Weisser Storch, Meyer, Tasschenb. Deut. 2. 345
 White Stork, Penn. Art. Zool. 2. 455.—Will. (Angl.) 286. pl. 52.—Lath. Syn. 5. 49.—Id. Sup. 234.—Mont. Ornith. Dict. and Sup.—Shaw's Zool. 11. 617. pl. 48.—Bewick's Br. Birds, 2. 32.—Flem. Br. Anim. 1. 96. sp. 10.

THE rare occurrence of the Stork in Britain, contrasted with the abundance in which it is found on the opposite continental coast, in Holland and France, is a remarkable instance of the laws which direct the migrations of birds, and confine them within certain limits. And this appears the more striking, when we know that its polar, or vernal, migration extends to a higher parallel of northern latitude than our own, as it regularly visits and breeds in Sweden, and

Rare visitant.

the northern parts of Russia. Upon the continent of Europe it is a strict periodical visitant, arriving in spring, and, after fulfilling the duties imposed on the reproduction of the species, departing in the autumn with great exactness as to time, to pass the period of our winter in the warmer climates of Asia and Africa. In Holland (and indeed in all countries where it breeds), the Stork is taken under especial protection by the inhabitants for the service it performs in clearing the country of reptiles and noxious vermin; and every facility is afforded to it for securely rearing its young; and for this purpose, in Holland, and in some parts of Germany, boxes or platforms are placed upon the roofs of the houses in the different towns and villages, or false chimneys with flat tops, erected upon the out-houses, as sites for the nests. In consequence of such kind treatment, and the naturally social disposition of the bird, it is very familiar, and may often be seen walking quite undaunted along the dikes and margins of the canals, solely intent on picking up whatever food it may discover. In some towns, Storks are frequently taken when young and domesticated, and these are kept in the fish, and other markets, to devour the offal, and thereby prevent the accumulation of filth, which would otherwise necessarily happen. Such I met with in Amsterdam, and some other towns in Holland; and this office of scavenger they certainly performed with great efficiency.—The nest of the Stork is formed of sticks and twigs, arranged in the boxes provided for them, or placed upon the tops of chimneys or other elevated parts of buildings, and sometimes upon the top of the decayed stump of a tree. The eggs are from three to five in number, nearly equal in size to those of a goose, of a cream-colour, or a yellowish-white. After a month's incubation the young are hatched, and, with great care, attended and watched alternately by the parents until fully fledged and able to provide for themselves. Previous to the autumnal migration (which, in Europe, happens in the last week of August or the beginning of September), these birds congregate

Nest, &c.

in immense flocks, and, as if to try the strength of pinion of the recently produced brood, make several short excursions, and are much in motion among themselves. After these trials of capability, they suddenly take flight, rise high into the air, and wing their way with great swiftness to the distant climes in which they pass our hiemal months; and where, it is said, they sometimes produce a second brood. Of the extent of such flocks, some idea may be formed from Dr Shaw's account of those which he witnessed leaving Egypt, and passing over Mount Carmel, each of which was half a mile in breadth, and occupied a space of three hours in passing over. When it sleeps, the Stork, like the Cranes, always stands upon one leg, with the neck bent, and the bill resting upon the breast. It frequently makes a loud clattering noise, by bringing the mandibles of the bill into quick and forcible contact the one within the other; which peculiarity also belongs to the other species.—The food of this bird consists of fish, amphibia, moles, mice, insects, and worms, and frequently the young of ducks and other water-fowl; indeed nothing of animal nature seems to come amiss to its appetite, though Willoughby informs us that one taken in Norfolk, and kept alive for some time, refused toads. Food.

PLATE 11. Represents the Stork of nearly one-half the size of nature, taken from a fine specimen in the collection of Sir WILLIAM JARDINE, Bart.

The bill and legs are red; the naked orbits of the eyes are black; the irides brown. The whole of the body is of a pure unsullied white, with the exception of the greater wing coverts, scapulars, and quills, which are black. The young are similar to the old birds, except that the black of the wings is not so intense, and the bill is of a reddish-brown colour. General description.

BLACK STORK.

CICONIA NIGRA, Bellon.

PLATE XI*.

- Ciconia nigra*, *Raii* Syn. 97. 2.—*Will.* 211. t. 52.—*Shaw's Zool.* 11. 620.
 —*Wagler*, Syst. Av. 1. sp. 9.—*Bechst.* 4. 96.
Ardea nigra, *Linn.* Syst. 1. 235. 8.—*Gmel.* Syst. 1. 623.—*Lath.* Ind. Ornith.
 2. 677. 11.
Ciconia fusca, *Briss.* 5. 362. 1. t. 31. young.
Cicogne noire, *Buff.* Ois. 7. 271.—*Temm.* Man. d'Ornith. 2. 562.
 Schwarzer Storck, *Meyer*, Tasschenb. Deut. 2. 348.
 Black Stork, *Penn.* Arct. Zool. 11. 456.—*Will.* (Angl.) 286. t. 52.—*Lath.*
 Syn. 5. 50. 11.—*Mont.* Trans. of Linn. Soc. v. 12. 19.—*Shaw's Zool.* 11.
 620.—*Flem.* Br. Anim. 1. 97. 11.

Very rare
 visitant.

THIS beautiful species is entitled to a place amongst the British Fauna, from the capture of one (after being slightly wounded by shot in the wing), at Westsedgemoor, in Somersetshire, in May 1814. This bird was afterwards presented alive to Montagu, who kept it for some years in confinement, and who, availing himself of such an opportunity, has given a very interesting account of its habits in a paper published in the 12th volume of the Transactions of the Linnean Society, and to which I refer my readers. From that account it appears, when captured, to have been a young bird; and he had the satisfaction of witnessing the various changes of plumage it underwent, previous to maturity. This species is a periodical visitant in many countries of Europe, but its longitudinal range does not extend so far as that of *Ciconia alba*, as it is unknown in Holland. Its latitudinal flight, however, seems to be even greater, as it passes over Sweden in vast flocks on its passage to Siberia and the extreme northern continental point. In its natural state, it is of a much more timid disposition than the preceding species, never, like it, resorting to the neighbourhood of towns or villages. Its abode is generally in the marshy parts

of remote and extensive forests, where it builds on the tops of the highest pines, or other trees, forming a considerable nest of sticks, in which it deposits two or three large greenish-white eggs, which (according to TEMMINCK and WAGLER) are sometimes marked with indistinct dusky spots. It feeds upon fish, reptiles, insects, small mammalia, &c. Food. When caught, it is easily domesticated, and soon becomes very tame; nor does it, like the *White Stork*, seem to make such pugnacious use of the bill as characterises many other groups of the *Ardeade*, even submitting to be taken up and handled, without displaying anger. A beautiful specimen of this bird is now to be seen in the Gardens of the Zoological Society; and I have remarked, that in its quiescent state, it assumes exactly the attitude described by MONTAGU, viz. standing on one leg, with the neck much shortened, and the hinder part of the head resting between the shoulders, whilst the bill is supported by the forepart of the neck, and nearly hidden under its loose projecting feathers.

PLATE 11. * Represents the bird in about half the natural size.

The head, neck, the whole of the upper parts of the body, the wings and tail, are black, glossed with tints of the richest purple and green, varying according to the light in which the bird is viewed; the under parts are pure white. The bill, the naked orbits of the eyes, the gular pouch, and the legs, are red.

In the young state, the head and neck are brown, speckled with deeper shades. The back and upper parts are brownish-black, with paler margins to the feathers, and slightly glossed with green. The bill is dusky red, brighter towards the tip; the orbits are the same. The legs and toes are orange-brown.

GENUS PLATALEA. SPOONBILL.

GENERIC CHARACTERS.

Bill very long, broad, straight, thin, much flattened, dilated towards the tip, which is rounded and spoon-shaped. Upper mandible sulcated, transversely furrowed and rugose; the tip bent downwards, and projecting beyond the lower. Under mandible smooth, except at the base; its suture distinct and well marked. Basal half of both mandibles interiorly furnished with a double row of tubercles; the anterior half with fine longitudinal striæ. Nostrils basal, egg-shaped, open, bordered with a membrane, and placed in the line of the furrows on the surface of the bill. Tongue very short, and blunt. Face and head partly, or entirely naked.

Legs long; feet four-toed; three before and one behind; the front ones united by a membrane or web; hind toe long, articulated a little above the plane of the others, and resting, for the greater part of its length, upon the ground. Tibiæ naked for one-half of their length above the tarsal joint. Front and back part of the tarsus reticulated. Front of the toes imperfectly scutellated. Claws short, straight, and entire.

Wings long, ample; the first quill a little shorter than the second, which is the longest of all.

In plumage, the neck clothed with short close-set feathers.

In habit and manner of life the Spoonbills approach very near to other groups of *Ardeæ*. They form societies, inhabiting estuaries, banks of rivers, and woody marshes, where they find their food, viz. small fish, crustaceæ, reptiles, and aquatic insects.

To obtain their prey they sometimes swim, which they are enabled to do by the extensive development of the membrane uniting the toes; and which brings the present order

near to, and connects it with, that of *Natatores*. The birds of this genus breed in high trees, in the vicinity of the rivers or lakes they frequent; or, in failure of these, in the reeds and aquatic herbage of extensive marshes. Their moulting is simple, and the young do not acquire the adult plumage before the third year. Three species are known, each possessing a distinct geographical disposition, viz. the White Spoonbill (*S. Platalea leucorodia*), inhabiting Europe and continental Asia; *S. Platalea ajaja*, confined to America; and another, which is found in the Philippine and other Asiatic Islands.

WHITE SPOONBILL.

PLATALEA LEUCORODIA, Linn.

PLATE X.

- Platalea leucorodia*, Linn. Syst. 1. 231. 1.—Gmel. Syst. 1. 613.—Lath. Ind. Ornith. 2. 667. 1.—Shaw's Zool. 11. 642. pl. 52. in the immature plumage.—Lesson, Man. 2. 246.
Platea seu Pelecanus, Aldrov., Raii Syn. 102. 1.—Briss. 5. 352. 1.
Le Spatule, Buff. Ois. 7. 448.
Spatule blanche, Temm. Man. d'Ornith. 2. 595.
 Wiesser Löffler, Bechst. Naturg. Deut. 4. 4. t. 17.
Platalea nivea, Cuv. Reg. Anim. 1. p. 482.
 Spoonbill or Pelican, Will. (Angl.) 288. t. 52.
 White Spoonbill, Br. Zool. App. t. 9.—Arct. Zool. 2. 441. A.—Id. Sup. 66.—Lath. Syn. 5. 13. 1.—Mont. Ornith. Dict. and Sup.—Shaw's Zool. 11. 642. pl. 52.—Bewick's Br. Birds, 2. t. p. 25.

THE visits of this singular bird to our shores are uncertain, and frequently at distant intervals. P^{ENNANT} mentions a flock that appeared in the marshes near Yarmouth, in April 1774; and M^{ONTAGU} states, that it had sometimes been seen, during winter, on the coast of South Devon. This indeed is corroborated afterwards (in the Supplement to his Ornithological Dictionary), by the fact of his receiving two specimens from that part of England, the first killed in

November 1804, and the second in March 1807. Since that period other individuals have been obtained; amongst these, two recorded in the third volume of the *Zoological Journal*, as killed in Lincolnshire; and, when in London in May 1830, I obtained a male and female in fine adult plumage from Norfolk. From the time of year at which these birds were killed, it is not improbable (and the conjecture may be hazarded) that they would have remained to breed in the district they had selected; and, though my collection has profited by their capture, I must still regret that they were not allowed to remain in security. This species is pretty generally dispersed upon the Continent, and in no country is more plentiful than in Holland, where it comes as a summer periodical visitant, and retires for warmer climates in September, frequently migrating in company with the stork.—

Nest, &c. If trees occur in the neighbourhood of the haunts of the Spoonbill, it builds on them like the Heron, and other kinds of *Ardeadeæ*; but if there be none, it then makes its nest in the rushes or reeds of the marshes or lakes to which it resorts. It lays from two to four eggs, generally pure white, but sometimes marked with spots of reddish-brown. In the young state of the bird the bill is soft and flexible, covered with a thin skin, and shewing none of the rugosity or transverse furrows that distinguish that part in maturity. The food of the Spoonbill consists of the fry of fish, aquatic worms, reptiles, insects, and the roots of certain weeds and grasses. Its flesh is said to be in flavour nearly like that of the goose, without any fishy or unpleasant taste. In its anatomy it shews an affinity to the Cranes in the form of the windpipe, which, previous to entering the thorax, undergoes a double flexure to the extent of about two inches, and forms a convolution similar to the figure 8. The flexures touch, but do not cross each other, the points of contact being united by fine membranes. This double flexure, according to WILLOUGHBY and TEMMINCK, was supposed peculiar to the males; but MONTAGU disproves that idea, as the specimen

he dissected was a *female*, and yet possessed the flexure to the extent above described ; and this indiscriminate characteristic was corroborated by the dissection of the specimens I obtained.

PLATE X. represents the male, of the natural size, as drawn from the recently killed bird, as above described, from Norfolk, in May 1830.

Bill eight inches and a half in length, black, except the tip, which, for about one inch or upwards, is ochre-yellow ; the base and upper surface is rugose, from the depth of the transverse furrows. The naked skin of the forehead, the space round the eyes, and the throat are yellow ; the latter passing into reddish-pink, where it comes in contact with the feathers of the neck. Irides venous-red. Crown and hind part of the head with a full crest of narrow, elongated, and canaliculated feathers, pointing backwards, and which the bird can raise or depress at pleasure. Whole of the body pure white, with the exception of a collar or gorget of ochreous yellow, which passes round the junction of the neck and breast, pointing upwards to the shoulders. The legs and toes are black ; the tibiæ naked for four inches above the tarsal joint. Tibiæ and tarsi entirely covered with hexagonal scales. The middle toe three inches long (being one-half the length of the tarsus), and joined to the outer one by a web, as far as the second joint ; and to the inner one as far as the first joint. Claws short, and nearly straight. Hind toe rather long, and resting on the ground for two-thirds of its length.

General
description.

Adult bird.

The plumage of the female is similar to that of the male bird, but the crest is not so long, and the yellow pectoral band not so bright in colour.

Previous to the acquisition of the mature plumage, the Spoonbill is without the crest. The bill also is paler in colour, and has not the furrows that cause the rough,

Young
bird.

ness about its base, and upon its surface, in the old bird. The iris is pinkish-grey. The outer webs and tips of the two or three first quill-feathers are black ; and the yellow gorget is not acquired till the end of the second, or beginning of the third year.

GENUS IBIS. IBIS.

GENERIC CHARACTERS.

Bill very long, slender from the middle to the point, thickened and subangulate at the base, arched, higher than broad, compressed, and with the tip obtuse. The upper mandible projecting a little beyond the lower one, deeply furrowed on each side of the culmen for the whole of its length ; the tomia nearly upright immediately at the base, from thence to the tip much drawn inwards, and forming a narrow canal in the centre of the interior of the bill ; culmen rounded, narrower towards the base. Under mandible with the same curvature as the upper one ; the anterior part rounded by the intrusion of the tomia ; the basal half with the sides square and upright. Angle of the chin narrow, and occupying about one-half the length of the mandible, filled with a naked skin. Nostrils near the base of the bill, placed in the commencement of the lateral furrows, oblong, longitudinal, and protected above by a naked membrane. Face more or less naked : in some species, the whole of the head and neck bare of feathers. Tongue short, sharp-pointed or entire. Legs long, or of mean length, slender ; the tibia partly naked. Toes three before, and one behind ; the middle toe joined to the outer by a membrane as far as the first joint ; the inner one nearly free. Hind toe half the length of the outer one ; articulated opposite to the inner toe, and resting, for nearly its whole length, upon the ground. Front of the tarsus in some species scutellated ; in

others reticulated, or covered with hexagonal scales. Claws either straight and long, with the middle one imperfectly *serrated* or pectinated, or strong, short, and much arched, and entire.

Tail extending beyond the wings, when closed; square and equal, or conico-elongate; formed of twelve feathers.

Wings long; the second and third quills being the longest.

In plumage, the species with feathered heads and necks have the feathers long, adpressed, narrow and acuminate. The wings and tail of most of the species have a bronzed or metallic lustre.

In works which treat of the ornithology of a limited district, or particular country, where the genera are restricted, and comparatively few in number, it must be expected that many forms, which serve to unite the different orders, families, and genera together, will necessarily be wanting; and that, under such circumstances, many birds must appear (as it were) isolated; and that a very imperfect idea can be conveyed of that admirable circular succession of affinities that actually exists throughout the feathered class. Such is the case with respect to the present genus, which, placed upon the limits of the family of *Ardeæ*, and viewed as an isolated group, seems so far removed from the more typical species, is yet (through the intervention of other genera, such as *Tantalus*, &c.) closely and intimately connected with it. The modification of the form, however, which it has undergone, prepares it as a link of connexion between the *Ardeæ* and the succeeding family of *Scolopacidae*; and this is beautifully effected through the genus *Numenius* (Curlew).

The genus *Ibis*, as at present constituted, might perhaps with propriety admit of still further division, as several species possess characters, which others seem either totally to want, or have in a greatly modified degree; but as I have not had an opportunity of examining and comparing all the known species with the requisite care and attention, before such division could properly be attempted, I have merely

thrown out this hint for the consideration of others who may enjoy more fortunate means of comparison. Species of this genus are found in all the four quarters of the globe, and many of them have a very extensive geographic range; none more so than the species included in the list of our Fauna as an occasional, but rare, visitant, the *Glossy* or *Bay Ibis*. Birds of this genus inhabit the borders of lakes and rivers, and resort to such countries as are subject to periodical inundations. They feed on worms, insects, and molluscous animals, and some of the species feed much upon vegetables, particularly the roots of bulbous plants. They congregate and live in societies, and in most countries are periodically migratory, performing their journeys in numerous flocks. Their moulting is simple. The young of many species differ greatly from the adult birds in colour of plumage, and only acquire the dress of maturity after the third moulting; the consequence of which has been considerable difficulty in discriminating their proper station, and, in some cases, an unnecessary multiplication of specific synonyms. A peculiar metallic lustre on the wings and tail distinguishes most of the species; and some have the barbs of the tertiary and secondary wing feathers long and decomposed.

GLOSSY IBIS.

IBIS FALCINELLUS, Temm.

PLATE XII.

- Ibis Falcinellus*, *Temm.* Man. d'Ornith. 2. 598.—*Wagler*, Syst. Av. 1. sp. 1.
 —*Flem.* Br. Anim. 1. 102.
Ibis ignea, *Steph.* Shaw's Zool. 12. 13.
Tantalus Falcinellus, *Linn.* 1. 241. 2.—*Gmel.* Syst. 1. 648.—*Lath.* Ind. Ornith. 2. 707. 14.
Falcinellus, *Raii* Syn. 103. 3.—*Will.* 218. 54.—*Id.* (Angl.) 295. 54.
Numenius viridis, *Briss.* 5. 326. 4.
Le Courlis vert, *Buff.* Ois. 8. 27.
Bay Ibis, *Lath.* Syn. 5. 113. 12.—*Arct.* Zool. 2. 460. A.

- Tantalus viridis*, *Gmel. Syst.* 1. 848.—*Lath. Ind. Ornith.* 2. 707. 15. }
 Green Ibis, *Lath. Syn.* 5. 114. 13. } Young.
Tantalus igneus, *Gmel. Syst.* 1. 649.—*Lath. Ind. Ornith.* 2. 708. 16.
Glossy Ibis, *Lath. Syn.* 5. 115. 14.—*Lewin's Br. Birds*, 4. pl. 152.—*Mont. Ornith. Dict. and Sup.*—*Steph. Shaw's Zool.* 12. 13.—*Bewick's Sup. to the Birds.*
Brazilian Curlew, *Nat. Miscell.* 17. 705.

THIS resplendent bird (for so it may with propriety be called, from the metallic lustre which gilds the greater part of its plumage) is occasionally driven from its direct course to our shores, during its periodical autumnal migrations from the northern part of the European continent, to which great bodies of them annually resort to breed and pass the summer months. At the period of the first publication of Dr LATHAM's works, it seems to have been of very rare occurrence in Britain, or had perhaps escaped observation, from the small degree of previous attention bestowed on the subject of natural history. Since the appearance, however, of his *Index Ornithologicus* and *General Synopsis*, many specimens have been noticed, and scarcely a year passes without mention of one or more of these birds being taken. From the change undergone in plumage from the young to the mature state, this Ibis has, by GMELIN, LATHAM, and other writers, been described under different specific names. Our countryman MONTAGU (whose attention was particularly directed to this interesting subject), appears to have been the first to detect and point out the identity of these supposed species; and he has, at considerable length, and with great clearness, elucidated its history in the valuable Supplement to his *Ornithological Dictionary*, under our present specific title. The geographical distribution of this bird is very wide, and embraces the greater part of the ancient world. In Europe (where it is periodically visitant, residing during the summer season), it is found in all the continental parts, as far north as Sweden, Norway, and (according to WAGLER), Iceland; but its longitudinal flight does not spread so far to the westward as our islands. In Asia it is very common,

having been traced from Siberia to the isles of Celebes and Java, and it is equally so in Africa. It seems to have been held by the Egyptians in the same sacred estimation as *Ibis religiosa* (of WAGLER), or the true sacred Ibis of authors, as its remains are frequently found with those of the last mentioned bird, deposited amongst the mummies of the Egyptian catacombs. Like others of the genus, this species generally lives in societies, and its migrations are performed in numerous flocks. It frequents the banks of rivers, the shores of lakes, and lands that have been recently inundated; feeding on worms, insects, molluscous animals, and certain aquatic plants. The nidification, eggs, and other particulars respecting its propagation, have not been noticed; and these points, with more extensive information, tending to illustrate the individual habits of the bird, are still wanting to complete its history.

Food.

PLATE.

General description.

Adult bird.

In the perfect, or adult plumage, the cheeks and crown of the head are of a deep greenish-black, glossed with a rich metallic purple; the feathers narrow and acuminate. The neck, the uppermost part of the back, the breast, the upper ridge of the wings, and under parts of the body, are of a deep reddish (or maroon) brown. The wings and tail, lower part of the back, wing coverts, and scapulars, are blackish-green, with the richest metallic tints of purple and green, as viewed in different lights. The naked skin extending from the bill to the eyes is green. The bill is blackish-green, in some specimens measuring upwards of six inches in length. Legs and feet are blackish-green: the naked part of the tibia is upwards of two inches long.

Young bird.

PLATE XII. represents the young bird previous to its first moulting, taken from a specimen killed near Rothbury, in Northumberland, and now in my collection.

The bill is greenish-black, fading towards the tip to wood-brown, and measures five inches in length; the lores are green. The head, throat, and back of the upper part of the neck are pale hair-brown; the feathers margined with white, and giving a spotted appearance. On the forepart of the neck are two narrow transverse bars, and a large irregular spot of white. Lower part of the neck, and the whole of the under parts, of a hair-brown colour, the margins of the feathers having greenish reflections. Upper parts of the body, wings, and tail, glossy olive-green, with faint changeable reflections of purplish-red upon the scapulars and wing coverts. Legs and toes blackish-green.

FAMILY III.—SCOLOPACIDÆ.

THIS family, partaking, in an equal degree with that of *Ardeæ*, of the advantage of both elements of land and water, naturally forms the other typical division of the order Grallatores. In the various members of which it is composed, the bill is long, fully developed, and admirably adapted for extracting or securing their prey, in the marshes, or on the shores of the ocean, where they resort; and this again is accompanied by a proportionate length of leg, giving them the power of wading to some depth in search of it. In tracing the affinities of the family, we find it beautifully connected with the preceding one of *Ardeæ*, through the interposition of *Numenius*, which approaches very closely to the genus *Ibis* of that family in the form of the bill. To the *Rallidæ*, another but aberrant family of this order, its connexion is readily traced by means of *Phalaropus* and *Lobipes*, which possess the lobated foot of the *Coots*, and whose habits (as being more aquatic), place them at the extremity of the *Scolopacidæ*; and to the fifth family, or *Charadriadæ*,

which completes the circle of the order, it is linked, through the medium of *Tringa*, &c. with the genera *Vanellus*, *Ardearia*, &c. of that aberrant family.

The *Scolopacidae* are the inhabitants of marshes, and the shores of lakes, rivers, and the sea. They live entirely on animal matter, such as worms, insects, mollusca, the roe and small fry of fishes. Most of the genera procure food by thrusting the bill into the soft earth, or the mud of shores, and thence extracting their prey; and, to facilitate this, an extraordinary development of the nerve is distributed over, and to the extreme point of the bill, thus endowing them with an exquisite sense of feeling; and, in many species, this member is further provided with a peculiar muscle, which, by the closing or contracting of the upper part of the mandibles, operates so as to expand them at the point, and enables the bird, with the bill still buried in the ground, to seize its prey the moment it is aware of being in contact with it. From this particular mode of searching for their prey, these are frequently styled "Birds of Suction." They all possess a great power of flight, having an ample development of wing, and are generally subject to the laws of migration. Species of this family are found in all parts of the world, and many of the genera have a very wide geographical distribution. Their nidification is on the ground, and they lay four eggs of a peculiar form, one end being large and rounded, the other decreasing to a point. The position of these in the nest is with the rounded end outwards, the smaller inwards, and meeting together in the centre of the nest. Thus placed, they occupy a small space, and are more easily covered in incubation than they would be if disposed in any other form. The flesh of these birds is in general succulent and well-flavoured.

GENUS NUMENIUS, *LATH.* CURLEW.

GENERIC CHARACTERS.

Bill very long, slender, incurved, slightly compressed, rounded through its whole length, with the tip of the under mandible projecting beyond the lower one; hard, and semi-obtuse; laterally furrowed for three-fourths of its length. Tomia of the upper mandible a little in advance from the base, bending inwards progressively towards the tip, and forming a channel in the centre of the interior of the bill; those of the under mandible even and straight. Angle of the chin very narrow, extending about one-half the length of the bill, and covered with feathers. Nostrils near the base of the bill, placed in the lateral groove, linear, and covered above by a naked membrane. Lores (or space between the bill and eyes) covered with feathers.

Legs long, slender, naked above the tarsal joint. Feet four-toed; three before and one behind; the front ones connected at the base by a large membrane. Toes short; the outer and inner ones of nearly equal length; hind toe short, and articulated above the plane of the others upon the tarsus, its tip only resting on the ground. Claws short and blunt. Front of the tarsus partly scutellated; back of the tarsus reticulated. Front of the toes scutellated.

The Curlews, from their close affinity to the genus *Ibis* of the preceding family, are properly placed at the head of the *Scelopacidae*, to the most typical species of which they directly lead through other nearly allied groups, thus maintaining that striking succession of affinities which is so universally found throughout Nature. They are birds of migratory habits, and, during the winter season, collect in flocks, and resort to the sea shores; generally frequenting such as offer extensive oozy sands, easily perforated by their

long cylindrical bills. Early in spring they commence their polar migration, and retire inland, selecting moors, extensive waste grounds, and mountainous heaths, abounding in marshes and pools of water, as appropriate habitats during the breeding season, when they separate into pairs. Their food consists of worms, reptiles, insects, and mollusca. The plumage of the young is similar to that of the old birds; and the former are only to be distinguished by the bill being shorter and softer. Their flight is strong, and generally at a considerable height in the air, and in disposition they are very timid and wary.

COMMON CURLEW.

NUMENIUS ARQUATA, Lath.

PLATE XIII.

- Numenius arquata, Lath.* Ind. Ornith. 2. 710. 1.—*Flem. Br. Anim.* 1. 101. 136.
Numenius major, Steph.—*Shaw's Zool.* 12. 26. pl. 4.
Scolopax arquata, Linn. Syst. 1. 242. 3.—*Gmel.* Syst. 1. 655.
Numenius, Raii Syn. 103. A. 1.—*Will.* 216. pl. 54.—*Briss.* Ornith. 5. 311. 1.
Le Courlis, Buff. Ois. 8. 19.
Le Courlis d'Europe, Cuv. Reg. Anim. 1. 485.
Grand Courlis cendré, Temm. Man. d'Ornith. 2. 603.
Grosse Brachvögel, Bechst. Naturg. Deut. 4. 121.
Common Curlew, Br. Zool. 2. 176. 63.—*Arct. Zool.* 2. 462. A.—*Will.* (Angl.) 294. pl. 54.—*Lath.* Syn. 5. 119.—*Id.* Sup. 242.—*Pull.* Cat. Dorset. 14.—*Levin's Br. Birds,* 4. pl. 153.—*Mont.* Ornith. Dict. and Sup.—*Bewick's Br. Birds,* 2. 54.—*Shaw's Zool.* 12. 26. pl. 4.—*Flem. Br. Anim.* 1. 101. 136.

PROVINCIAL.—Whaap, Stock Whaap, Whitterick.

THIS is a well-known and numerous species, and, though found in these islands in certain situations throughout the whole year, is nevertheless subject to regular periodical migrations. During winter these birds are inhabitants of the sands and muddy shores of the sea, and the mouths of rivers, then associating in flocks, and feeding upon marine insects,

Food.

worms, small crustaceous and molluscous animals, which they principally obtain by perforating the mud and sand with their long bills. At this season they are remarkable for their shy and watchful character, and unless by stratagem can rarely be approached within gun-shot. During the flowing of the tide they retire to the fields adjoining the coast, where they remain quietly until the ebb has commenced. No sooner has this taken place, than they are seen returning to seek, in the lately covered sands, for a new deposit of food; and I have often observed with admiration by what wonderful instinctive feeling they became immediately acquainted with the fact; and have watched, when a certain mark upon the shore has become visible, for their re-appearance, without being once disappointed in the result; so well do they know "their appointed times and seasons." Towards the end of March, or early in April, they begin to retire from the coasts, and migrate to the interior heathy and mountainous districts of England and Scotland; but from the observations I have been able to make, I feel almost assured that this movement is not so confined in extent as is supposed by some; for instance, I do not think that the Curlews we have upon the coast of Northumberland, as winter or equatorial visitants, satisfy the migrative impulse by a flight of a few miles into the interior; but that these retire to the Highlands, or northern parts of Scotland, and its isles; giving place, upon our moors and open grounds, to those bodies which have wintered in the southern parts of the kingdom. Unless upon this idea it would be difficult to account for their presence in higher latitudes, and would also be at variance with the ascertained facts relative to the migrations of other birds.

During the pairing and breeding season, their notes are much varied, consisting of several loud whistling calls, that suit well with the wild open scenery where they are found. At this time they are often on the wing, wheeling in widely

extended circles round the place selected for nidification.—
Nest, &c. The nest is placed on the ground amongst heath, or coarse herbage, in a shallow part scraped in the ground, and lined with decayed grass and rushes. The eggs are four in number, placed with their large ends outwards, and the smaller meeting to a point in the centre of the nest; of a *pale* oil-green colour, blotched all over with two shades of brown. The young leave their place of birth as soon as hatched, and are then covered with a thick yellowish-white down, varied with spots and masses of brown. By degrees the feathers develop themselves, but the young birds are not sufficiently fledged to take wing till they are six or seven weeks old. During this period they are assiduously attended by their parents, who lead them to appropriate feeding-places, and by brooding over, protect them from the cold and wet. Under these circumstances Curlews lose the excessive shyness that characterises them at all other times, and when the young are approached, will fly close around the intruder, uttering their cry of *courlis* in quick repetition. Notwithstanding their natural wildness, when captured, either young or adult, they soon become tame, as I have frequently experienced; and MONTAGU, in the Supplement to his Ornithological Dictionary, confirms this, and has given a very interesting account of the habits and manners of the Curlew (under that head), when in a state of domestication, and to which I must refer my readers. The flesh of these birds is excellent, being juicy and highly flavoured, and is in great estimation at the table. The geographical distribution of the species is very extensive, it being found at certain periods upon most of the shores of the Old World. I have received specimens from India and the Delft Islands, which scarcely differ in any respect from our own. The Curlew of North America is, however, a distinct kind; distinguished by a different disposition of colours, and an extraordinary development of bill.

PLATE 13. represents the bird in the natural size.

Bill having the upper mandible black, the lower one flesh-coloured for one-half its length from the base; the remainder, and the tip black. Chin and throat white, the latter with a few fine striæ of brown. The head, neck and breast of a cream-yellow colour, tinged with grey, with the shafts or central parts of the feathers umber-brown. The upper part of the back and scapulars deep hair-brown, with a slight glossy reflection; each feather being margined and varied with greyish-white, and cream-yellow. The wing-coverts hair-brown, margined with skim-milk white. The lower part of the back white, with narrow deep hair-brown streaks. Tail barred with deep hair-brown and yellowish-grey. Belly and abdomen white, streaked with brown. The quills have the shafts white, the outer webs very dark hair-brown, and the inner ones light hair-brown, barred half across with white. The legs and toes are bluish-grey.

General
descrip-
tion.

WHIMBREL CURLEW.

NUMENIUS PHÆOPUS, Lath.

PLATE XIV.

- Numenius Phæopus, Lath. Ind. Ornith. 2. 711. 6.—Flem. Brit. Anim. 1. 101. 137.*
Numenius Hudsonicus, Lath. Ind. 2. 712. 7.
Scolopax Phæopus, Linn. Syst. 1. 245. 4.—Gmel. Syst. 1. 657.
Phæopus, Cuv. Reg. Anim. 1. 485.
Phæopus arquatus, Steph. Shaw's Zool. 12. 36. pl. 5.
Numenius minor, Briss. 5. 317. t. 27. f. 1.
Arquata minor, Raii Syn. 103. A. 2.—Will. 217.
Corlieu, ou le Petit Courlis, Buff. Ois. 8. 27.
Courlis Corlieu, Temm. Man. d'Ornith. 2. 604.
Regen Brachvogel, Meyer, Tasschenb. Deut. 2. 355.
Esquimaux Curlew, Arct. Zool. 2. No. 364. 19.
Hudsonian Curlew, Lath. Syn. Sup. 243.
Whimbrel, Penn. Br. Zool. 2. No. 177. Arct. Zool. 2. 462. B.—Will. (Angl.) 294.—Lath. Syn. 5. 123.—Mont. Ornith. Dict.—Lewin's Br. Birds, 4. pl. 154.—Bewick's Br. Birds, 2. 57.—Flem. Br. Anim. 1. 101. 137.

Common Whimbrel, *Steph. Shaw's Zool.* 12. 86. pl. 5.

PROVINCIAL.—Curlew -Jack, Half Curlew, Curlew Knot, Stone Curlew, Tang-Whaap.

THESE birds are found upon most of our shores during the winter, but not so plentifully as the Common Curlew, and rarely associated in companies of more than five or six in number; which are probably the family of the preceding year, that, having migrated together, do not separate till they feel the influence of the vernal or pairing season. Upon the Northumbrian coast I have observed them most abundant in the early part of spring, when moving towards the higher latitudes, where they breed; but their stay at that time is not prolonged beyond a week or ten days. Their migration appears to extend farther within the Arctic regions than the common species; and Zetland is the only station in the British dominions where they have been ascertained to breed. The nest (according to Dr FLEMING) is made on exposed heaths, like that of the preceding kind, and (upon the same authority) the eggs are *four* or *five*; of which I suspect the first number to be the correct one; as I consider, from long continued observation, that none of the members of the *Scolopaceous* family habitually lay more than *four* eggs at each hatching. M. CUVIER, from a supposed distinctive character in the form of the bill, separated this species from *Numenius*, under the generic title of *Phæopus*; in which he has been followed by Mr STEPHENS, the continuator of SHAW's Zoology; but as the only character upon which the separation is attempted to be formed does not actually exist, it is quite unnecessary for me to offer any apology for not in this respect adopting the views of so eminent a naturalist.—The Whimbrel is disseminated throughout Europe, the greater part of Asia, and North America; inhabiting the sea-shores during the winter season, and retiring more inland and to higher latitudes to breed.—It feeds upon worms, insects, and molluscous animals; usually obtaining

Nest, &c.

Food.

its prey by probing the sands and softer ground with its bill. Its flesh is delicate and well-flavoured. In disposition it is scarcely so shy as the Common Curlew.

PLATE 14. represents the bird in the natural size.

The bill, which is upwards of three inches in length, is black; with the base of the under mandible flesh-red. General description.

Forehead and crown of the head dark hair-brown, divided longitudinally by a narrow mesial white streak. The eye-brows are white, streaked with brown. Between the angle of the mouth and the eyes is a patch of hair-brown. Chin and throat white; the latter with fine hair-brown streaks. Neck and breast greyish-white, with the centres of the feathers hair-brown. Upper part of the back, scapulars, and wing-coverts glossed with hair-brown, margined with greyish-white. Lower part of the back white. Upper tail-coverts white, barred with dark hair-brown. Tail greyish-brown, with darker bars, and the feathers tipped with white. Abdomen white. Legs and toes bluish-grey.

GENUS TOTANUS, *BECHST.* SANDPIPER

GENERIC CHARACTERS.

BILL long, or of mean length; in some species slightly recurved; rounded, solid, hard, and drawn to a point. The upper mandible sulcated; the furrow seldom extending beyond half the length of the bill; the tip arched, and curving over that of the lower one. Tomia of both mandibles bending inwards progressively towards the point. Nostrils basal, lateral, linear, longitudinally cleft in the furrow of the mandible. Legs long, slender, naked above the tarsal joint. Toes three before, and one behind. Front toes united at the base by a membrane; that connecting the outer with the middle

one always the largest. Hind-toe short, and barely touching the ground with its tip, or nail. Fronts of tarsus and of toes scutellated. The plumage close and firm. Moulting double, or subject to a vernal change.

The Sandpipers are distinguished from the more typical groups of the family, by having the bill hard, with its tip pointed and sharp; and being without those particular muscles possessed by the birds with softer bills, or such a development of the nerve, as we see exemplified in the genus *Scolopax*, &c. This difference of structure in so important an organ indicates a corresponding one in their economy and mode of life; and instead of seeking their food by probing in the soft sand or mud with their bills, they seize it upon the surface of the earth, or search for it among the gravel and stones on the shores of lakes and rivers, or on those of the ocean. That food consists of insects, worms, mollusca, and sometimes small fish. Some of the species live entirely in the interior, and are but accidentally, if ever, found upon the sea-coast, which is to others the place of habitual resort, during the period of their equatorial migration. They are all subject to a change of plumage on the approach of the breeding season; but except in one or two instances, it is not violent, but confined to a more extended and different distribution of the spots and rays by which they are generally distinguished. Among the various species which the genus contains, as at present constituted, there are some strongly-marked aberrant forms, which, upon further investigation, will probably be found to be types of genera, or subordinate groups of the present one. Such appears to be *Totanus semipalmatus* of TEMMINCK, with a very thick and strong bill, and half-webbed feet. The Green-shank also (*Totanus Glottis*), showing by the upward curvature of the bill its affinity to *Limosa* and *Recurvirostra*, stands upon the very confines of the genus.

The Sandpipers generally live in pairs, or in small socie-

ties, and throughout Europe are subject to periodical migration. Their flight is strong, and they run with considerable rapidity.

DUSKY SANDPIPER.

TOTANUS FUSCUS, *Leisl.*

PLATE XV. Fig. 1. 2.

- Totanus fuscus*, *Leisl.*, Nachtr. zu Bechst. Naturg. Deut. Heft. 1. 47.
 No. 2.—*Temm.* Man. d'Ornith. 2. 639.—*Shaw's Zool.* 12. 132.—*Flem.*
Br. Anim. 1. 102. 138.
Chevalier Noir, *Cuv. Reg. Anim.* 1. 493.
Chevalier Arlequin, *Temm.* Man. d'Ornith. 2. 639.
Dusky Sandpiper, *Shaw's Zool.* 12. 132.
Totanus fuscus, *Bechst.* Naturg. Deut. 4. 212.
Scolopax fusca, *Linn.* Syst. 1. 243. 5.—*Lath.* Ind. Ornith. 2. 724. 35.—
Gmel. Syst. 1. 657. } Summer
Limosa fusca, *Briss.* Orn. 5. 276. 4. t. 23. f. 2. } plumage.
Le Barge brune, *Buff.* Ois. 5. 508.
Dusky Snipe, *Lath.* Syn. 5. 155.
Tringa atra, *Lath.* Ind. Orn. 2. 738. 43.
Black-headed Snipe, *Lath.* Syn. Sup. 2. 313.
Scolopax Cantabrigiensis, *Gmel.* Syst. 1. 688.—*Lath.* Ind. Orn. 2. 721. 23. }
Cambridge Godwit, *Br. Zool.* 2. 185.—*Lath.* Syn. 5. 146. 16.—*Mont.* Orn. }
Dict.—*Bewick's Br. Birds*, 2. 84. } Winter
Scolopax Curonica, *Gmel.* Syst. 1. 669.—*Lath.* Ind. Orn. 2. 724. 37. } plumage.
Courland Snipe, *Lath.* Syn. Sup. 2. 310.
Scolopax Totanus, *Gmel.* Syst. 1. 655. 12.—*Lath.* Ind. Orn. 2. 721. 24. }
Totanus alter, *Raii* Syn. 106. 11.—*Will.* (Angl.) 297.—*Barker*, *Albin.* }
 2. t. 71. } Synonyms
Spotted Snipe, *Lath.* Syn. 2. 148. 19.—*Lewin's Br. Birds*, t. 164.—*Mont.* }
 Orn. Dict. 2. and Sup. with a fig. } of Young.
Spotted Redshank, *Penn. Brit. Zool.* 2. No. 186.—*Bewick's Br. Birds*,
 ed. 1826. pl. tab. 69.

THE difference of plumage between the young and mature bird in this species, and the peculiar change annually undergone previous to the pairing season, have occasioned great perplexity in discriminating it under such various garbs, and given rise to the long list of synonyms above quoted. This is a rare species in Britain, and the specimens taken are generally birds of the year (that is, the young previous to the first moulting), or old birds in their winter dress. MONTAGU describes two, both in the young state, under the title of the *Spotted Snipe*, and has given a correct figure of one

of them in the Supplement to his Ornithological Dictionary. BEWICK also mentions two, as having been killed in the north of England. In my collection is one, also a young bird, which was shot near Yarmouth; and I may add, to this list, two in the possession of B. BAKER, Esq. of Hardwicke Court, in Gloucestershire, one an old bird in the winter plumage, the other a bird of the year; and which were presented to him as the *Spotted Redshank*, in summer and winter plumage. The figure given in the present work, of the adult bird in its nuptial dress, is drawn from a very fine specimen (killed in Britain) in the collection of W. YARRELL, Esq. In this species the sulcum (or groove) of the upper mandible is short, not extending beyond a third part of its length; in advance of the furrow, the bill becomes much rounded, by the doubling in of the tomia; and the tip of the maxilla is suddenly bent downwards, with a fine sharp point.—This bird inhabits marshy meadows, and the borders of rivers and lakes; and is sometimes found, during its migrations, on the sea-coasts.

Food. —It feeds principally on small univalve and bivalve mollusca, to which may be added worms and insects. It retires within the Arctic Circle to breed, but no description of its nest or eggs has hitherto been obtained. It seems to have a wide geographical distribution, as the specimens sent from India appear to be precisely the same; and no difference exists in those procured from North America.

PLATE 15. Fig. 1. The adult bird in the summer plumage, as taken from Mr YARRELL's specimen.

General
descrip-
tion.

Adult bird
in summer
plumage.

The head, neck, and under parts, are brownish-black, with a tinge of grey; the feathers upon the breast and belly finely edged with white. The upper parts of the body are blackish-brown; the feathers with triangular white spots upon their margins and tips. The quills are dusky black; the shaft of the first quill white. The lower part of the back is white. The upper tail-coverts are barred black and white. The tail-feathers are greyish-black,

with narrow transverse white bars. The base of the lower mandible is brick-red, the other part brownish-black. The legs are red.

Fig. 2. represents the young of the year (or *Spotted Snipe* Young of authors), and is taken from a specimen killed on the coast of Norfolk, and presented to me by H. GIRDLESTONE, Esq. of Yarmouth. ^{bird of the year.}

The bill is brownish-black; the base of the under mandible red. Between the bill and eyes is a patch of white, and below is another of hair-brown. The chin and throat are white. The forepart of the neck, the breast, and all the under parts, are greyish-white, with transverse undulating bars of pale hair-brown. The hindpart of the neck is hair-brown, the feathers being margined with greyish-white. The back is clove-brown, the margins of the feathers having small triangular spots of white. The wing-coverts, scapulars, and tertials, are deep clove-brown, with large triangular white bars and spots. Tail deep hair-brown, barred with greyish-white, and forming (as observed by MONTAGU) a double fork; the middle and outer feathers being the longest. The lower part of the back is white. The upper tail-coverts are white, with dark hair-brown bars. Legs and toes orange-red.

The adult bird in the winter plumage has the eye-brows pure white; and between the bill and the eyes is a dusky patch or streak. The crown of the head, the sides and back part of the neck, and upper part of the back, are of a fine ash-grey. The chin, throat, and under parts, are of pure white. The scapulars and tertials are ash-grey, having the margins of the feathers with alternate bars of white and hair-brown. The wing-coverts are deep ash-grey, barred upon their margins with white and blackish grey. The lower part of the back is white. The upper tail-coverts white, barred ^{Adult bird in winter plumage.}

with blackish-grey. The tail has the middle feathers ash-grey, barred with blackish-grey; the outer feathers with alternate bars of white and blackish-grey. Legs and toes orange-red.

REDSHANK SANDPIPER.

TOTANUS CALIDRIS, *Bechst.*

PLATE XVI. Fig. 1.

Totanus calidris, *Bechst.* Naturg. Deut. 4. 216.—*Shaw's Zool.* 12. 135.—*Flem. Br. Anim.* 1. 102. No. 139.
Le Grande Chevalier au pieds rouges, *Cuv. Reg. Anim.* 1. 493.

Synonyms
of Old.

{ Chevalier Gambette, *Temm. Man. d'Ornith.* 2. 643.
Red-legged Sandpiper, *Shaw's Zool.* 12. 135.
Scolopax calidris, *Linn. Syst.* 1. 245. 11.—*Gmel. Syst.* 1. 164.—*Lath. Ind. Orn.* 2. 722. 25.
Scolopax Totanus, *Briss.* 5. 188. 3. t. 17. f. 1.—*Raii Syn.* 107. A, 1.
La Gambette, *Buff. Ois.* 7. 513. t. 28.
Rothfussiger Wasserläufer, *Meyer Tasschenb. Deut.* 2. 368.
Redshank or Pool Snipe, *Br. Zool.* 2. No. 184. t. 65.—*Lath. Syn.* 5. 150.
Id. Sup. 225.—*Mont. Ornith. Dict. and Sup.*—*Lewin's Br. Birds*, 4. pl. 165.—*Bewick's Br. Birds*, 2. 91.
Tringa Gambetta, *Linn. Syst.* 1. 248. 3.—*Gmel. Syst.* 1. 671.—*Lath. Ind. Ornith.* 2. 728. 9.
Gambetta, *Raii Syn.* 107. 2.—*Will.* 222. Id. (*Angl.*) 300.
Red-legged Horseman, *Albini.* 2. t. 68.
Gambet Sandpiper, *Lath. Syn.* 5. 167. 9.; but not the Gambet of *Penn. Br. Zool.*, which is a young Ruff, as is also the Gambet of *Mont. Orn. Dict.*

Young.

{ *Tringa striata*, *Lath. Ind. Orn.* 2. 733. 24.
{ Striated Sandpiper, *Arct. Zool.* 2. 383.—*Lath. Syn.* 5. 176. 21.

PROVINCIAL,—Sandcock.

ALTHOUGH this is a well-known bird, and a permanent resident in our country, yet we find it, even in the compilations of our own authors, described under various titles; and, what seems more extraordinary, and shows how little dependence can be placed upon works so composed, we meet with it arranged as a species in different genera. Thus we have it classed with the Woodcocks and Snipes under the name *Scolopax calidris*; and again, in another genus, as *Tringa Gambetta*, and *Tringa striata*. This discrepancy

occurring between authors, who must be referred to for consultation, renders the identity of species and the collation of synonyms a matter of considerable difficulty, and very often of great uncertainty; the descriptions appended being in many instances so short and unsatisfactory, as to make it almost impossible to say with decision to what bird they really belong. Among the synonyms quoted by recent writers as belonging to the Redshank, is the *Gambetta* of PENNANT's British Zoology; but this, I think, belongs more properly to the *Ruff* (*Tringa pugnax* of authors) in its young state, or after it has lost its nuptial dress; and, as MONTAGU seems in favour of such an opinion, I have attached it to that bird. The *Tringa Bewickii* of MONTAGU, and *Totanus Bewickii* of STEPHENS, a bird described by BEWICK from two specimens sent to him from Lincolnshire, also appears to belong to the *Ruff* rather than to the Redshank; indeed, BEWICK's description corresponds very closely with specimens of the *Reeve* in my collection. *Tringa striata* of LATHAM certainly belongs to this species in its young, or nestling, feathers; but the other synonyms quoted by him refer to the Purple (or Rock) Tringa (*Tringa maritima*). During the winter the Redshank is found upon the sea-coast, and about the mouths of rivers, in small flocks; but on the approach of spring it retires inland, to the fenny parts of the country, where it breeds. Its nest is placed on some large Nest, &c. tuft of grass in the marshes, or on the ground in moist meadows; and is there formed by lining a shallow hole or depression with dry grasses and other vegetable remains. The eggs, four in number, are rather smaller than those of *Vanelus cristatus* (Common Lapwing), in colour a deep oil-green, blotched with blackish-brown; with the spots most numerous at the larger end.—During incubation, when disturbed from its nest, this bird is very vociferous, flying round the intruder, and unceasingly uttering its shrill and piping notes. Upon the coast it is generally very wild and wary, and, as it always gives a loud whistle upon first rising, it spreads an

alarm amongst all other birds near at hand, and thereby often disappoints the shooter in his expectation of sport. Its food is the same as the rest of its immediate tribe.

PLATE 16. Fig. 1. represents the Redshank in the winter plumage, and of the natural size.

General
description.

Adult bird
in winter
plumage.

Head, back part of the neck, back and scapulars, of an uniform pale hair-brown, tinged with grey, and glossed with olive-green. Wing-coverts ash-grey, margined with white. Throat and under part of the neck white, finely streaked with ash-grey. Breast white, with small oblong spots of deep hair-brown. The flanks and under tail-coverts white, with transverse bars of hair-brown. Abdomen and vent pure white. Lower part of the back white. Upper tail-coverts and tail white, barred with deep hair-brown. The base of the bill brick-red, with the tip brownish-black. Legs orange-red.

Summer
plumage.

In the summer plumage, or nuptial dress, a white streak extends from the base of the bill over the eye. The head, neck, and the whole of the under parts are white, with oblong spots of dark hair-brown. Chin white, with a few small specks of hair-brown. Back and scapulars pale hair-brown, with an olivaceous gloss, and barred with brownish-black, occupying the centres of the feathers. Lesser wing-coverts plain hair-brown, glossed with olive. The greater coverts and tertials hair-brown, margined with white, and transversely barred with blackish-brown. Upper tail-coverts and tail barred black and white. Bill and legs as in the winter dress.

Young of
the year.

The young of the year, previous to the assumption of the winter plumage, have a large patch of hair-brown between the bill and eyes. The eyebrows are white. The nape and back part of the neck ash-grey. The throat and under side of the neck white, with fine striæ of ash-grey. The sides of the breast marbled with wood-brown. The belly, abdomen, and vent, pure white. The back,

scapulars, and wing-coverts, hair-brown, with a grey tinge, and with yellowish-white triangular spots occupying the margins of the feathers on each side of their shafts. Legs pale orange-yellow. Bill reddish at the base, with the tip blackish-brown.

GREEN SANDPIPER.

TOTANUS OCHROPUS, Temm.

PLATE XVI Fig. 2.

Totanus ochropus, Temm. Man. d'Ornith. 2. 651.—Shaw's Zool. 21. 127.—Flem. Br. Anim. 1. 103. No. 140.

Tringa ochropus, Linn. Syst. 1. 250. 13.—Gmel. Syst. 1. 676.—Lath. Ind. Ornith. 2. 729. 12.

Tringa Aldrovandi, Raii Syn. 108. A. 7. 8.—Will. 222. t. 55.—Id. (Angl.) 300.

Becasseau ou Cul blanc, Buff. Ois. 7. 534.

Chevalier Cul blanc, Temm. Man. d'Ornith. 2. 651.

Punktirte Strandläufer, Bechst. Naturg. Deut. 4. 283.—Meyer, Tasschenb. Deut. 2. 386.

Green Sandpiper, Br. Zool. 2. No. 201.—Lath. Syn. 5. 170.—Mont. Ornith. Dict. 2. and Sup. with a Fig.—Bewick's Br. Birds, 2. 100.—Shaw's Zool.

12. 127. pl. 17.—Flem. Br. Anim. 1. 103. No. 140.

Wood Sandpiper, Linn. Trans. 1. 130. f. 2.

THIS well-shaped and handsome bird is with us an occasional visitant during its vernal and autumnal migrations, and at the latter period, from being a bird of solitary habits, is always seen single, but is sometimes met with in pairs when happening to visit our islands, in the progress to its summer residence. It inhabits the edges of small streams, and pools of fresh water in the interior of the country, and is rarely, if ever, found upon the sea coast. It runs with great activity, flirting its tail in the same manner as the Common Sandpiper (*Totanus hypoleucos*). When flushed, it utters a shrill whistle, and generally flies low, skimming over the surface of the water, and following with precision all the bends and angles of the stream. I have met with it

Occasional
visitant.

on the moors of Northumberland in August, and have now in my collection two beautiful specimens, killed by the side of a small mountain rill. Another, also killed in the same county, is now in the museum of the Natural History Society at Newcastle-upon-Tyne; and JOHN MURRAY, Esq. of Murraythwaite in Dumfriesshire, possesses a male and female, shot by him when together, near that place in the spring of 1829.—This species occurs throughout the greatest part of continental Europe, frequenting inland rivers and waters, and is said to retire into the northern central parts to breed. The nest is made by the side of some stream, and the eggs (according to TEMMINCK) are of a greenish-white, blotched with brown. It is also found in several parts of Asia.—By many writers this has been confounded with another species, viz. *Totanus Glareola*, the *Wood Sandpiper*; and LATHAM, in the Supplement to his General Synopsis, has unaccountably united them, although, in his Index Ornithologicus, they stand as distinct species. MONTAGU, however, in his Ornithological Dictionary and its Supplement, has pointed out the peculiar distinctions of each, and which are indeed so strongly marked, as to render the discrimination of the two birds a matter of no doubt to those who have an opportunity of examining them.

PLATE 16. Fig. 2. Represents the Green Sandpiper, from a specimen killed on the moors near Twizell, as above mentioned, apparently a bird of the year, as it has the distinguishing marks of that state, as given by TEMMINCK.

General
description.

The crown of the head hair-brown. The streaks passing above and below the eye white, speckled with hair-brown; the intermediate space being dark hair-brown. Chin and throat white. The sides and back part of the neck hair-brown, tinged with grey, and varied with fine striæ of greyish-white. Fore part of the neck and breast white, with lance-shaped spots of hair-brown.

Under parts pure white. The back, scapulars, and wing-coverts hair-brown, glossed with olive-green; the margins of the feathers being finely spotted with yellowish-white. The quills very dark hair-brown, with all the shafts dark-coloured. The under wing-coverts deep hair-brown, beautifully varied with marks like the letter V. Rump white. Tail white; the middle feathers having *three* broad dark hair-brown bars, the next with *two*, and the two outer feathers almost *immaculate*. The legs and toes are greenish-grey, and not nearly so long in proportion to the size of the bird, as in the Wood Sandpiper (*Totanus glareola*).

The principal difference in the plumage of the adult consists in the upper part of it being more thickly covered with small *white* specks, and the fore part of the neck and breast having longitudinal brown streaks, instead of the lance-shaped spots of the young bird.

WOOD SANDPIPER.

TOTANUS GLAREOLA, Temm.

PLATE XVI. Fig. 3.

- Totanus Glareola*, Temm. Man. d'Ornith. 2. 654.—*Flem. Br. Anim.* 1. 103. No. 141.—*Shaw's Zool.* 12. 130.
Totanus Grallatoris, *Shaw's Zool.* 12. 148.
Tringa Glareola, Linn. Syst. 1. 250. 13. B.—*Gmel. Syst.* 1. 677.—*Lath. Ind. Orn.* 2. 730. 13.
Tringa Grallatoris, Mont. Sup. Orn. Dict.
 Chevalier Sylvain, Temm. Man. d'Ornith. 2. 654.
 Wald Strandläufer, Bechst. Naturg. Deut. 4. 291.—*Meyer, Tasschenb.* 2. 387.
 Wood Sandpiper, Penn. Arct. Zool. 2. 482. 9.—*Lath. Syn.* 5. 172. 13.—*Shaw's Zool.* 12. 130.—*Flem. Br. Anim.* 1. 103. No. 141.—*Mont. Orn. Dict.* and Sup. with a Fig.
 Long-legged Sandpiper, Mont. Ornith. Dict. App. to Supp.—*Shaw's Zool.* 12. 148.

THIS species (which has been frequently confounded with the preceding one) is also an occasional but a very rare visitor.

sitant; a solitary straggler being now and then driven as far to the westward as the longitude of our islands during the periodical migration of the species from the northern to the more southern districts of Europe. The short specific descriptions given by LINNÆUS of these two nearly allied birds, and their rare occurrence in Britain, without doubt induced Dr LATHAM and others (as mentioned in the preceding account of the Green Sandpiper) to think that they might be identical. His description, however, of the present bird, in his Index Ornithologicus, ought to have satisfied him that it could not be the *Tringa Aldrovandi* of RAY and WILLOUGHBY, quoted as a synonym of *Ochropus* (and with great propriety, as it answers exactly to it); for he describes *Glareola* as having "remiges fuscæ, rachi niveæ, secundariæ apices margine albâ," characters which are correct, and very distinctive of the species. MONTAGU, in his Ornithological Dictionary, has so accurately described each from personal inspection, as to render mistake, or a confusion of the species, almost impossible for any one who is enabled to compare his descriptions with the specimens of these birds. He has, however, in his Appendix to the Supplement of the same work, created some unnecessary confusion by rejecting the Linnean specific appellation of *Glareola* altogether, and imposing in its place the new title of *Tringa Grallatoris* (Long-legged Sandpiper); which confusion is still further increased by Mr STEPHENS, in his Continuation of SHAW'S Zoology, giving both the *Glareola* of LINNÆUS, and *Grallatoris* of MONTAGU as distinct species. In size, this bird is fully one-third less than the *Ochropus*, with the legs much longer in proportion; the tarsi of the former being one-eighth of an inch longer than those of the latter, and the naked part of the tibia is considerably longer. In addition to the specimens recorded by MONTAGU and others, I can mention a beautiful one of the young bird, killed at Ellingham in the month of September 1828 (now in my collection, and a description of which is given below); a second, killed

at Prestwick Car in 1830, and now in the museum of the Natural History Society of Newcastle-upon-Tyne; and a third, shot at White-mare Pool, in the county of Durham, and now in the possession of Mr EDWARD BACKHOUSE.

It is a native of the interior of Continental Europe, and has a wide geographical distribution, being found in India; and I have specimens also from the Cape of Good Hope. Moist woods and swamps producing willows and other brushwood are its favourite habitats, where it lives solitary, or, in the breeding season, in pairs. It retires within the Arctic Nest, &c. circle to breed, and its nest is made by the side of some rill or pool. The eggs, four in number, are said to be of a yellowish or oil-green colour, spotted with brown.—It feeds up- Food. on worms and insects.

PLATE 16. Fig. 3. Represents the Wood Sandpiper of the natural size.

Between the bill and eyes is a dark hair-brown streak. General

Crown of the head, back, and wings, are hair-brown, ^{description.} with a tinge of grey, but no gloss of green. Margins of the dorsal and scapular feathers, and also the wing-coverts, are marked with small white and greyish-white spots. The secondaries are margined and tipped with white. The greater quills are hair-brown, the first one having a white shaft. Nape of the neck, cheeks, sides of the breast, and the flanks are greyish-white, with hair-brown rays. Eyelids, throat, belly, and abdomen white. The lower part of the back is blackish-grey, having the feathers finely margined with white. Rump and upper tail-coverts white; the latter with a brown streak down their shafts. Tail white, barred with hair-brown; the outer feathers having their inner webs pure white. The wings, when closed, reach to the end of the tail. The bill is black, with a green tinge towards the base. Legs and toes greenish-grey.

In the summer plumage, the spots of white upon the back

and wing-coverts are larger and purer in colour, and the scapulars are obscurely barred with a deeper shade of hair-brown.

The following is a description of the bird of the year, from a specimen killed at Ellingham in September 1828, and kindly presented to me by the late THOMAS HAGGERSTONE, Esq.

Between the bill and eyes is a narrow blackish-brown streak. The temples and eyebrows are white, finely streaked with hair-brown. Chin and throat pure white. Crown of the head dark brown, having the feathers finely margined with yellowish-brown. Nape and sides of the neck greyish-white, striated with brown. Breast white; each feather having a brown streak down the shaft, and being very finely margined with hair-brown. The flanks are marked with undulating bars of brown and yellowish-white. Belly and abdomen white. The back, scapulars, and wing-coverts deep brown, with a purplish gloss, and each feather having a large reddish white spot on each side of the shaft near the tip. The quills are brownish-black; the shaft of the first one being white. The secondaries margined with yellowish-white. The lower part of the back is greyish-black, margined with white. The rump and upper tail-coverts white; the tips of some of the latter with a hair-brown spot. Tail barred with deep hair-brown and white; the outer feathers having their inner webs nearly pure white. Legs and toes wax-yellow, tinged with greenish grey. Bill black at the tip, and the base tinged with green.

COMMON SANDPIPER.

TOTANUS HYPOLEUCOS, Temm.

PLATE XV. FIG. 3. 4.

- Totanus Hypoleucos*, *Temm.* Man. d'Ornith. 2. 657.—*Shaw's Zool.* 12. 142.
 —*Flem. Br. Anim.* 1. 104. No. 143.
Tringa Hypoleucos, *Linn.* Syst. 1. 250. 14.—*Gmel.* Syst. 1. 678.—*Lath.* Ind. Ornith. 2. 734. 23.
Tringa minor, *Raii* Syn. 108. A. 6.—*Will.* 223. t. 55.
Le Guinette, *Buff.* Ois. 7. 540.
Chevalier Guinette, *Temm.* Man. 2. 657.
Trillender Strandläufer, *Bechst.* Naturg. Deut. 4. 295.—*Meyer*, *Taschenb.* Deut. 2. 389.
Common Sandpiper, *Br. Zool.* 2. No. 204. t. 71.—*Arct. Zool.* 2. No. 388.
 —*Will.* (Angl.) 301. t. 55.—*Lath.* Syn. 178. 23.—*Mont.* Ornith. Dict.—*Bewick's Br. Birds*, 2. 104.—*Ib.* 2. 111. the Young.—*Shaw's Zool.* 12. 142.—*Flem. Br. Anim.* 1. 104. No. 143.
Spotted Sandpiper, *Bewick's Br. Birds*, 2. 111.
 PROVINCIAL—Willy-wicket, Water-junket, Summer Snipe.

THIS active little bird is a regular periodical visitant, and Periodical visitant.
 during summer is the well known inhabitant of the margins of all our rivers and lakes. It usually makes its first appearance about the 20th of April, and I have observed that if suffered to breed unmolested, the same pair (at least so it may be presumed) will return for many successive seasons to the locality previously occupied. In this country its migrations extend to the northern parts of the mainland of Scotland, as it is known in Caithness, which appears to be its boundary in this longitude, as it is not noticed by Low in his Natural History of the Orkneys, and Dr FLEMING, in his History of British Animals, states it to be wanting in these islands. It is very abundant upon the shores of the Scottish fresh-water lakes, and upon Loch Awe in July (when the young broods begin to fly), I have at one view seen three or four families on the wing crossing over or skimming along the edges of the lake. The Common Sandpiper is a bird of most lively habits, having its body in continual

motion ; for whether running along the shore, or perched upon a stone, its tail is ever moving up and down ; and it has also the custom (in common with other species of this genus) of nodding the head, by suddenly stretching and contracting the neck. Its flight is graceful, though peculiar, being performed by a rapid motion of the pinions, succeeded by an interval of rest, the wings at the same time being considerably bent, and forming an angle with the body ; and in this manner it skims with rapidity over the surface of the water, not always flying in a straight line, but making occasional sweeps, uttering at the same time its shrill and well known whistle, which has been compared to the sound of the words bestowed upon it as a provincial appellation.— It breeds upon the banks of rivers or lakes, taking care to make its nest beyond the reach of the usual floods, and frequently, should a corn-field approach the edge of the water, it will retire within it. The immediate site of the nest is generally under a projecting tuft of grass or rush, where it scrapes rather a deep hole in the ground, lining it with dried grass, leaves, and other materials. The eggs are four in number, and not *five*, as stated by some authors ; they are of a cream-yellow colour, with numerous spots of dark brown upon the surface, and others of a lighter hue appearing, as it were, underneath the outer shell. If disturbed during the period of incubation, the female quits the nest as quietly as possible, and usually flies to a distance, making at this time no outcry ; as soon, however, as the young are hatched, her manners completely alter, and the greatest agitation is expressed on the apprehension of danger, and every stratagem is tried, such as feigning lameness and inability of flight, to divert the attention of the intruder from the unfledged brood. As soon as hatched the young quit the nest, and are then covered with down of a greyish-brown colour above, with black streaks upon the head, and a black list down the back, the under parts being white. This is rapidly succeeded by the regular plumage, and in the course of three weeks they

Nest, &c.

are nearly able to fly. If discovered, and attempted to be caught before being fully fledged, they boldly take to the water, repeatedly diving, and to a considerable distance;—a provision wisely granted, as being so well adapted to insure their safety in the unfledged state. After the young have gained sufficient strength, these birds prepare for their autumnal or equatorial migration, and by the end of September the greater part of them have quitted the kingdom. They retire to the warmer parts of Continental Europe, to Asia, and to Africa; but Dr LATHAM appears to be in error when he states it as a species common to America, for it is not recognised by WILSON, or by other American ornithologists. Its place in that country is supplied by another closely allied species, viz. *Totanus macularius* (Spotted Sandpiper). In BEWICK's admirable work a description and figure are given of a bird which he thought was the *Tringa macularia* of authors, but it approaches, in every respect, so closely to the young of the Common Sandpiper, that I cannot help thinking he must have mistaken the species. At all events, his bird could not have been an adult *Spotted Sandpiper*, as neither the figure nor description give an idea of the peculiar spotting of the whole of the under parts, so distinctive of both the male and female of that species. In *Totanus hypoleucos* and *Totanus macularius* the furrow extends for more than two-thirds of the length of the upper mandible, and the bill is not quite so much rounded near the tip, as in the preceding species of this genus; in these particulars shewing their affinity to the genus *Tringa*. The food of these birds consists of the worms and insects usually found in the localities they frequent.

PLATE 15. Fig. 3. Represents the Common Sandpiper of the natural size.

Between the bill and eyes is a dark hair-brown patch, and over the eyes is a white streak. Head and upper parts of the body of a lightish hair-brown colour, glossed with

General
description.
Adult
bird.

olive-green; the shafts of the feathers being darker, and being further varied upon the back and scapulars with fine transverse zigzag lines of dark hair-brown, giving the bird an elegantly mottled appearance. The lesser wing-coverts marked with transverse bars of hair-brown, the greater coverts tipped with white. Two first quill-feathers hair-brown; the rest hair-brown, with a large white spot in the centre of the inner web. The four middle tail-feathers similar to the back; the two next on each side tipped with white; the outermost having the tip white, and the outer web pale hair-brown, with darker bars. Throat and chin white, with a few small specks of pale hair-brown. Sides of the neck and breast greyish-white, streaked with hair-brown. Abdomen and vent white. Bill of a dusky greenish-grey colour. Legs and toes yellowish-grey.

Young
bird.

Fig. 4. Represents the young bird, soon after exclusion, and covered with a down of the colour previously described.

SPOTTED SANDPIPER.

TOTANUS MACULARIUS, Temm.

PLATE XVII.

- Totanus macularius, Temm.* Man. d'Ornith. 2. 656.—*Shaw's Zool.* 12. 144. but not the figure which represents the young of the Common Sandpiper.—*Flem. Br. Anim.* 1. 103. No. 142.—*Wils. Amer. Orn.* 7. 60. pl. 59. f. 1.
Tringa macularia, Linn. 1. 249. 7.—*Gmel. Syst.* 1. 672.—*Lath. Ind. Ornith.* 2. 734. 29.
Turdus aquaticus, Briss. 5. 255. 20.
 La Grive d'Eau, *Buff. Ois.* 8. 140.
 Chevalier perlé, *Temm. Man. d'Ornith.* 2. 656.
 Geflechte Strandläufer, *Bechst. Naturg. Deut.* 4. 342.—*Meyer, Tasschenb. Deut.* 2. 385.
 Spotted *Tringa*, *Edw. t.* 227. f. 2.
 Spotted Sandpiper, *Br. Zool.* 2. No. 196. ?—*Lath. Syn.* 5. 179. 24.—*Shaw's Zool.* 12. 144. the synonyms, but not the figure or description.—*Mont. Ornith. Dict.*—*Flem. Br. Anim.* 1. 103. sp. 142.

THE authority upon which this bird ranks as a rare British visitant, seems to rest solely on the description given by Mr EDWARDS of a bird that was shot in Essex, but which (as I have before remarked with regard to that figured and described by BEWICK as *Totanus macularius*) appears to be nothing more than *Totanus hypoleucos*; and the specimens also from which my figures were taken, though supposed to have been killed in England, I am afraid cannot be satisfactorily substantiated as such. According to TEMMINCK, it is sometimes met with on the coast of the Baltic, and in parts of Germany, but never in Holland. This distribution appears singular; and, as an American species, it is difficult to account for its appearance so far out of the line of its migrations. In the United States it is very common, and, like the Sandpiper of this country, to which it is closely allied, is there known as a summer visitant. During that season, it is found distributed throughout the interior, inhabiting, in great numbers, the banks of the various rivers and lakes with which that country abounds. Its manners and economy appear to be very similar to those of our own species; and in perusing WILSON's animated and graphic account of this bird in his excellent American Ornithology*, we can scarcely divest ourselves of the idea that he is not describing *Totanus hypoleucos*. The same continual motion of the tail equally distinguishes both kinds; and their mode of nidification, the colour of the eggs, their food, and other particulars, are all much alike. It quits the United States in October for more southern latitudes, and is supposed to winter in South America and the West Indian islands.

Rare visitant.

Nest, &c. Food.

PLATE 17. Represents the male and female of the natural size, which is rather less than *Totanus hypoleucos*.

Under mandible of the bill orange-yellow; the upper and tip brown. The eye-streak and orbits white. Head, and the whole of the upper parts pale hair-brown, glossed

General description.

* See WILSON's American Ornithology, vol. vii. p. 64. pl. 59. fig. 1.

with olive-green, with the shafts and centres of the feathers darker. First quill-feather hair-brown; the rest having a white spot in the middle of the inner web. Greater wing-coverts and bastard wing tipped with white. Middle tail-feathers like the back; the outer ones white, barred with hair-brown. Chin, sides of the neck, breast, and under parts white, beautifully marked with round spots of a deep hair-brown, closest upon the back and breast. Legs and toes sienna-yellow.

GREENSHANK.

TOTANUS GLOTTIS.

PLATE XIX.

- Totanus glottis*, *Bechst.* Naturg. Deut. 4. 249. No. 10.—*Flem.* Br. Anim. 1. 104. sp. 144.
Scolopax glottis, *Linn.* Syst. 1. 245. 10.—*Gmel.* Syst. 2. 264.—*Lath.* Ind. Orn. 2. 720. 21.*
Scolopax canescens, *Gmel.* Syst. 1. 668.—*Lath.* Ind. Orn. 2. 721. 22.
Limosa grisea, *Briss.* 5. 267. 2. t. 23. f. 1.
Limosa glottis, *Steph.* Shaw's Zool. 12. 86. pl. 13.
Pluvialis major, *Rai* Syn. 106. A. 8.—*Will.* 220. t. 55.—*Id.* (Angl.) 298.
La Barge variée, et La Barge Aboyeuse, *Buff.* Ois. 5. 503. et 505.
La Barge grise, *Buff.* Ois. 5. 267.
Le Chevalier Aboyeur, *Temm.* Man. d'Ornith. 2. 659.
Le Chevalier à gros bec, *Cuv.* Reg. Anim. 2. 493.
Grünfussiger Wasserläufer, *Meyer.* Tasschenb. Deut. 2. 371.
Greenshank, *Penn.* Br. Zool. 2. 183.—*Lath.* Syn. 5. 147. 18.—*Id.* Sup. 249.—*Lewin's* Br. Birds, 4. pl. 163.—*Mont.* Ornith. Dict.—*Bewick's* Br. Birds, 2. 86.—*Shaw's* Zool. 12. 86. pl. 13.—*Flem.* Br. Anim. 1. 104. sp. 144.
Green-legged Horseman, *Allin.* Br. Birds, 2. 69.
Cinereous Godwit, *Penn.* Br. Zool. 2. 180.—*Lath.* Syn. 5. 145. 15.—*Mont.* Ornith. Dict. and Sup.

PROVINCIAL—Greater Plover.

THIS bird I shall still retain in the genus *Totanus*, though placed upon the confines of the group, and by some authors

* TEMMINCK, in his enumeration of the synonyms of this bird, in a note, says, "Mais point le *Scolopax glottis* de Gmelin et de Latham, dont la phrase Latine n'appartient point à la présente espèce." To the justice of this remark I cannot assent, as the specific description does answer to the Greenshank, and has by all other authors been quoted as such.

already separated from it, having been described by NILSON in his *Ornithologia Suecica* as *Glottis chloropus*, and by STEPHENS, in the 12th volume of SHAW's *Zoology*, as *Limosa glottis*. The only differing point, however, is in the form of the bill, which is rather stronger, and bent upwards from the middle to the point, thus leading to and beautifully connecting the present genus with the genera *Limosa* and *Recurvirostra*. It is a scarce bird in Britain, and generally only to be met with about the periods of its vernal and autumnal migrations, though I am inclined to think that a few may breed upon the edges of the Scottish lakes, as Sir WILLIAM JARDINE and myself met with the young upon Loch Awe in July; and I have an adult specimen that was shot in Scotland in the month of May. Upon the Continent, it is rather common during winter in some parts of Holland, and also upon the shores of the Swiss lakes, and on the larger rivers of Germany; but it retires in the summer to more northern countries to breed. Its geographical distribution seems to be of wide extent in the ancient world, as the specimens I have received from different parts of India are precisely similar to our own. It has also been mentioned by some authors as occurring in America; but this does not appear to be the case, and the mistake has probably arisen from confounding some nearly allied species with it. It is seldom found on the sea-coast, but is the constant inhabitant of the margins of rivers, and the shores of pools and lakes in the interior of the countries it frequents, feeding upon the fry of fish, testaceous mollusca, aquatic worms, and insects. Periodical
visitant.

We have no authentic account of its nidification. MONTAGU mentions an egg that he received from the fens, as belonging to this bird, and describes it as rather less than that of a Lapwing, but very similar in shape and colour. This, however, may have been an egg of one of the Godwits, birds of nearly the same size, and which have been ascertained to breed in the fens of Norfolk and Cambridgeshire. Food.

PLATE 19. Represents the Greenshank of the natural size, just after having assumed the winter plumage, from a specimen killed in 1824 at Lennoxlove, near Haddington in Scotland.

General
description.
Winter
plumage.

Forehead, region of the eyes, throat, fore part of the neck, and all the under parts, pure white. Crown of the head, and sides of the neck, streaked with hair-brown. Sides of the breast with streaks and transverse rays of pale brown. Upper part of the back, wing-coverts, and scapulars, deep clove-brown, with a purplish tinge, the feathers being margined with greyish-white. Tertiaries margined with white, and faintly barred with hair-brown of a deeper shade. Quills brownish-black; the shafts of the first being white, very strong, and broad. Lower part of the back, and the rump, white. Tail white, with irregular bars of hair-brown. Bill brownish-black, two inches and two-eighths in length. Legs and feet greenish-grey.

Summer
plumage.

In summer, the eye-brows and chin are white; the face, head, under part of the neck, breast, and sides, with large drop-like spots of the same colour; the rest of the under parts pure white. Upper part of the back is a mixture of black and grey, many of the feathers being black, with greyish-white margins, the rest ash-grey, marbled with pale hair-brown, having the shafts alone black. Greater and part of the lesser wing-coverts ash-grey, with darker centres. Tertiaries, and long feathers covering the quills, ash-grey, with black shafts, and barred upon the outer part of the webs with black and pale ash-grey. Lower part of the back and the rump white. Upper tail-coverts white, barred with hair-brown. Tail, having the middle feathers greyish-white, marked with zig-zag lines and bars of pale hair-brown; the outer feathers being wholly white, except a longitudinal streak of hair-brown upon the outer web. Legs and toes greenish-grey.

GENUS RECURVIROSTRA, LINN. AVOCET.

GENERIC CHARACTERS.

BILL long, slender, subulate, much depressed, thin, bending considerably upwards toward the tip, which is very flexible, and brought to a fine point. Both mandibles grooved. Nostrils placed near to the base, and upon the surface of the bill, long and linear. Legs long, slender; the greater part of the tibiæ naked. Tarsi thin, laterally compressed, with both the front and back part reticulated. Feet four-toed, three before and one behind, the anterior united for nearly the whole of their length, by a scalloped membrane; hind toe very short, articulated upon the tarsus, and not reaching to the ground. Wings long and sharp-pointed, with the first quill-feather exceeding the rest in length. Plumage close, soft, adpressed, and party-coloured.

This small but well-marked group (which, during the period of the artificial system of classification, was included among the *Palmipedes*, or true swimming birds), now, according to the views of Mr VIGORS, so ably exemplified in his observations on the natural affinities connecting the various orders and genera of birds, holds a place amongst the *Grallatores*, in the family of *Scolopacidae*, intermediate between the genera *Totanus* and *Limosa*. To the first group, it is allied by the intervention of *Totanus semipalmata*, an American species, with feet webbed nearly to the same extent, and also by *Totanus glottis*, where the upward curving of the bill appears to commence; and its connection with *Limosa* is shewn in the long and turned-up bill of the members of that genus, as well as by a considerable similarity in habits and manners. Amongst the *Charadriadæ* it is represented by the genus *Himantopus*, which, by WILSON (who

has given an interesting and detailed description of the form and habits of an American species) was considered so closely approaching to *Recurvirostra*, as to induce him to place it in that genus, rather than in the family of the *Charadriadæ*, to which, as an aberrant form, it more properly belongs.

This genus, as far as it is at present known, contains four species, only one of which is European. They are the inhabitants of the muddy shores of the ocean, and more particularly of the estuaries of rivers, where they obtain a plentiful supply of food in the sediment brought down from the interior, and upon which soft substance they are supported by their palmated feet. Their food consists of minute aquatic insects, the lesser univalve and bivalve mollusca, and the spawn of fishes. They form their nests upon the ground in sea-marshes. When feeding, they frequently wade deep in the pools, or on the edges of rivers, but never swim voluntarily; and, from observations which have been made, they appear unable to use their legs and feet for this purpose with much effect. Their flight is strong and rapid. Their moult appears to be simple; and the sexes exhibit no difference in plumage.

SCOOPING AVOCET.

RECURVIROSTRA AVOCETTA, Linn.

PLATE XX.

Recurvirostra Avocetta, Linn. Syst. 1. 256. 1.—*Gmel.* Syst. 1. 693.—*Lath.* Ind. Orn. 2. 786. 1.—*Raii* Syn. 117. A. 1.—*Will.* 240. t. 60.—Id (Angl.) 321.—*Flem.* Br. Anim. 1. 101. sp. 135.—*Shaw's Zool.* 12. 170. pl. 22.
L'Avocette, Buff. Ois. 3. 466. t. 38.
Avocette à Nuque noire, Temm. Man. d'Ornith. 2. 590.
 Der blaufüssige Wasser Sabler, *Bechst.* Naturg. Deut. 4. 450. t. 25. f. 2.
 Scooping Avocet, Penn. Br. Zool. 2. 504. No. 228.—*Arct. Zool.* 2. 503.—*Albin.* Br. Birds, 1. pl. 101.—*Lath.* Syn. 5. 293. 1.—Id. Sup. 263.—*Mont.* Ornith. Dict.
Avocet, *Lewin's Br. Birds*, 6. 202.—*Bewick's Br. Birds*, 2. 158.
 Common Avocet, *Shaw's Zool.* 12. 173. pl. 22.

PROVINCIAL—Butterflip, Scooper, Yelper, Picarini, Cobler'awl, Crooked-bill.

THESE elegant, though singular birds are not uncommon upon the eastern coasts of England south of the Humber, and breed in certain parts of the fenny districts of Lincolnshire and Norfolk; and also in Romney Marsh in Kent. They are occasionally, but rarely, met with in the north of England, and in Scotland. During winter, they assemble in small flocks, and frequent the oozy and muddy shores, particularly about the mouths of rivers, where they obtain a plentiful supply of food, consisting of small worms and marine insects, as well as the young univalve and bivalve mollusca. Their mode of feeding is by scooping, or, as it were in appearance, beating the soft mud with their flat and upturned bill; and, when thus engaged, they are frequently seen wading up to their breasts in the pools left by the receding tide. They are never seen to swim voluntarily, although furnished with feet so extensively palmated as to have induced the earlier systematists to place them amongst the swimming birds; but this structure is an admirable provision for enabling them to traverse the soft and yielding substance in which they find their food. Their legs also are formed for wading, by being laterally compressed, and thin, thus offering the least possible resistance to their progress through the water. They are quick and active birds, and their flight, from the form and dimensions of their wings, is powerful and rapid. In spring, they resort to the marine marshes, which are only occasionally or partially covered by the tide, and select the driest part for nidification.—The eggs are of a greenish-white, spotted with black. If disturbed at this season, particularly when the young are first excluded, these birds fly round in repeated circles, uttering at the same time, without intermission, their peculiar cry, which resembles the word *twit* twice repeated.—The geographical distribution of this species is very extensive, it being found throughout the greater part of temperate Europe. In Asia, it inhabits Siberia, and is very plentiful upon the shores of the Caspian Sea, and on the salt-lakes of Tartary.

Food.

Nest, &c.

In Africa, it is met with in Egypt, and other parts; and the species sent from the Cape of Good Hope appears also to be identical.

PLATE 20. Represents this bird of the natural size.

General
description.

Head, nape, and two-thirds of the hinder part of the neck, black. The cheeks, the rest of the neck, and the whole body white, with the exception of the outer scapulars, the middle wing-coverts, and the greater quills, which are black. Bill black. Legs and toes bluish-grey.

The young, previous to the first moulting, have those parts which are of deep black in the adult birds, more inclining to brown, and in them, the black on the head extends but little beyond the occiput. The dark scapular feathers, and intermediate wing-coverts, are also margined with reddish-grey.

GENUS LIMOSA, *BRISS.* GODWIT.

GENERIC CHARACTERS.

BILL very long, rather thick at the base, compressed, more or less turned upwards, higher than broad, semi-flexible throughout its whole length; culmen rounded from the base for two-thirds of its length, the remainder to the tip flattened; both mandibles laterally grooved to within a short distance from the point, which is somewhat dilated, and blunt; tip of the upper mandible projecting beyond the lower one; angle of the chin very narrow, and extending about one-third of the length of the bill.

Nostrils near the base; placed in the lateral groove, narrow, and longitudinal.

Wings acuminate, of mean length; the first quill-feather the longest.

Legs long and slender; a great part of the tibiæ naked. Front and back part of the tarsus scutellated. Feet four-toed, three before and one behind; the outer toe united to the middle one by a membrane as far as the first joint; the inner one nearly free. Hind toe short, articulated upon the tarsus, and touching the ground with its tip only. Inner edge of the middle claw dilated, and in some species serrated.

The Godwits, which shew their affinity to the preceding genus by retaining the recurved bill, and which prevails to a greater or less extent in all the species, were formerly included by authors among the true *Scolopaces*. They differ, however, in many essential points from the Woodcocks and Snipes, which may be considered as the typical forms of the extensive group known under that designation. In these latter birds, the bill is very flexible and soft throughout its whole length, and furnished with an extraordinary plexus of nerves, giving an exquisite perception of feeling; and the tip of the bill, soon after death, becomes rugose, by the exsiccation of the nervous fibres distributed over and near its surface. In the Godwits, this member, although it possesses much of the general form, is more solid, less flexible, and thicker towards the base; and as the nerves are neither so numerous nor so generally disposed over the surface, it never shews any of that peculiar roughness after death, so conspicuous in the other more typical genera, but remains smooth and polished, shewing it in fact to be an intermediate form between the hard, horny, and sharp-pointed bill of the *Totani*, and the soft and pulpy one of the Snipes and Woodcocks. They also differ in habits and manners; and a great dissimilarity prevails in the colour and disposition of the plumage, which approaches nearer to that of the *Totani* (Sandpipers). The birds of the present genus form a small group, are of considerable size, with long necks and legs, which latter are naked for a considerable space above the tarsal joint, and with feet

formed upon the same model as those of the *Totani*, the outer toe being joined to the intermediate one by a membrane. They inhabit marshes, and the banks and mouths of rivers, where the muddy deposit is deep and soft, and in which, by probing with their long and semiflexible bills, they find worms, and aquatic insects and their larva, upon which they constantly feed. When thus engaged, these birds are frequently seen with the head entirely under water; and we accordingly find them amply provided with the peculiar gland, situated immediately above the eye, whose function appears to be that of lubricating and defending this delicate organ from the effects of saline and other waters. They are subject to a double moult, and their nuptial dress is very different from the plumage they wear during the other parts of the year. The females exceed the males much in size, and it has been remarked that they are much later than the other sex in acquiring the change of feather distinctive of the breeding season. They perform the same migratory movements as the rest of the *Scolopacidae*, and their passage takes place at the same periods.

BLACK-TAILED GODWIT.

LIMOSA MELANURA, *Leisler*.

PLATE XXI. Figs. 1. and 2.

- Limosa melanura*, *Leisl.* Nacht. zu. *Bechst.* Naturg. Deut. Heft 2. 150 and 157. fig. 21.—*Temm.* Man. d'Ornith. 2. 664.—*Horsf.* in Trans. Linn. Soc. 13. 193.
- Limosa Aegocephala*, *Flem.* Br. Anim. 1. 107. sp. 150.
- Fedoa melanura*, *Steph.* Shaw's Zool. 12. 73. but not the figure, which appears to be that of the Red or Common Godwit.
- Barge à Queue noir, *Temm.* Man. d'Ornith. 2. 264.
- Black-tailed Godwit, *Shaw's* Zool. 15. 73.—*Flem.* Br. Anim. 1. 107. sp. 150.
- Scolopax Limosa*, *Linn.* Syst. 1. 245. 12.—*Gmel.* Syst. 1. 666.—*Lath.* Ind. Orn. 2. 719. 18.
- Fedoa nostra secunda*, *Raii* Syn. 105. A. 5.—*Will.* 216.—*Id.* (Angl.) 293.
- La Barge ou Barge commun, *Buff.* Ois. 7. 509. t. 27.
- Lesser Godwit, *Penn.* Br. Zool. 2. 444. No. 182, male.
- Jadreka Snipe, *Lath.* Syn. 5. 146.—*Mont.* Orn. Dict. 2. and Sup. with a plate.—*Levin's* Br. Birds. 4. pl. 162.

Winter
plumage
and young.

- Scolopax belgica*, *Gmel. Syst.* 1. 663.—*Lath. Ind.* 2. 716. 9.
Scolopax Aegocephala, *Linn. Syst.* 1. 246. 16.—*Gmel. Syst.* 1. 667.—*Lath. Ind. Orn.* 2. 719. 16.
Limosa rufa major, *Briss.* 5. 284. 6.
Aegocephalus Bellonii, *Raii Syn.* 105. A. 4.—*Will.* 2. 215. Id. (Angl.) 294.
Le Grande Barge rousse, *Buff. Ois.* 7. 505.
Godwit, *Lath. Syn.* 5. 142. 14. A.
Scolopax Hudsonica, *Lath.*—*Ind.* 2. 720. 20.
Hudsonian Godwit, *Lath. Syn. Sup.* 246.
Red Godwit, *Penn. Br. Zool.* 5. No. 181.—*Lath. Syn.* 5. 142.—*Mont. Ornith. Dict.* 1., but the synonyms quoted belong to the Bar-tailed Godwit.

} Summer
plumage.

THE numerous list of synonyms above quoted is an evident proof of the uncertainty, and consequent confusion, attending the history of this species, arising, it would appear, from the earlier ornithologists being quite unacquainted with the peculiar change of plumage to which these, as well as many other birds, are periodically subject; for, if we analyze the various specific names now before us, we shall find that most of them have been given, either when the bird had actually perfected some considerable change, as that from the winter to the spring (or nuptial) dress, or else in the intermediate state, that is, of progress from one to the other. Of our naturalists, MONTAGU was among the first to discover and fix his attention on this important fact, of such value towards elucidating the history of species, and, by such investigation, succeeded in clearing away many inaccuracies and mistakes which had crept into our native ornithology. With respect to the bird in question, he has, however, fallen into some error in the two first volumes of his Ornithological Dictionary, by confounding the synonyms of the two species; but, in his description and figure of the Jadreka Snipe, in the supplement to the same work, we at once detect *Limosa melanura* (Black-tailed Godwit); and in his Red-breasted Snipe, we recognise the summer plumage of the Common Godwit of many authors, the Red or Bar-tailed Godwit (*Limosa rufa*) of this work.

This species seems to have been hitherto considered as a

rare visitant, but, from the observations I have been enabled to make, it appears to be as regular in its visits as the other, though perhaps not so numerous or so generally dispersed; and it has been proved, within these few years past, to be the present species which breeds in certain parts of our fens, and not the Common Godwit, as had been previously supposed. During winter, these birds are sparingly scattered along our oozy shores, and at the mouths of our larger rivers, as well as in the fenny districts of Lincolnshire and Norfolk; but about the period of their annual movements, they are more numerous, and also more widely dispersed, and at this time frequently visit the coasts of Northumberland, and other northern districts*.

Food.

The food of the Black-tailed Godwit consists of insects and worms, obtained by probing the mud and soft sand with its long bill; and it is then frequently seen wading tolerably deep in the water, immersing the head at intervals, and searching the deposit beneath. This habit accounts for the great development of that gland, which, as I have before observed, appears to secrete a fluid for lubricating and protecting the eyes of such birds as are accustomed to have the head frequently submerged; and it accordingly exists to the greatest extent in the Order *Natatores*, or true water birds — The species is widely distributed throughout Europe and Asia; and if the Hudsonian Godwit of Latham be identical with it, is an inhabitant of North America; but, as the description of that species is very concise, I quote it with some degree of doubt, as it may possibly refer to the Marbled Godwit (*Limosa Fedoa*) of the American continent — The Black-tailed Godwit, as before stated, breeds annually in some of our fens, making its nest in the thick herbage, and always in the vicinity of water. It lays four eggs, of a deep oil-green colour, faintly blotched with spots of a darker shade.

Nest, &c.

* Whilst writing this account (March 1831), four Godwits were brought to me for sale, three of which were of the black-tailed species, and just beginning to acquire the summer plumage.

PLATE 21. Fig. 1. Represents a female of the natural size.

Bill orange-yellow at the base; tip black. Head, neck, upper part of the breast, back, and scapulars ash-grey, tinged with hair-brown; deepest upon the latter parts. Chin, the streak over the eye, the whole of the under parts of the body, and the upper tail-coverts, white. Wing-coverts pale hair-brown, deeply margined with greyish-white. Quills brownish-black, with an angular white spot at their tips; the shafts, as well as the basal parts of the outer webs of the third, fourth, fifth, and following feathers pure white, and forming a bar across the wings. In the tail, the middle feathers are almost wholly black, the base alone being white; and this increases progressively to the outer feather, which is white for upwards of half its length. But the tail, when not expanded, appears wholly black. The tips of the tail-feathers, in some specimens, are margined with greyish-white. Legs very long, with the tibiae naked for upwards of an inch and three-quarters above the tarsal joint; colour blackish-grey.

General
description.
Female.

Fig. 2. Represents the summer (or nuptial) plumage of the male bird.

Bill a fine orange-colour at the base, with the tip black. Crown of the head reddish-brown, streaked with black. Forehead, eye-streak, and chin, reddish-white. Cheeks, neck, and breast pale reddish-brown; the latter transversely barred with brownish-black. Belly, abdomen, thighs, and under tail-coverts, white, barred at distant intervals with pale reddish-brown and blackish-brown. Back and scapulars black, having each feather margined and barred with reddish-brown. Smaller wing coverts, near the bend of the wing, of a deep hair-brown; the greater coverts deeply margined with white. Tail black, with the bases of the feathers white. Legs blackish-grey.

Young. The young birds, previous to the first moulting, have the crown of the head blackish-brown; each feather being margined with pale reddish-brown. The neck and breast are of an ash-grey colour, tinged with reddish-brown. The eye streak, chin, the bases of the caudal and quill feathers, the belly, abdomen, upper and under tail coverts are white. The back and scapulars brownish-black, each feather being margined with reddish-brown. Wing coverts ash-grey, margined and terminated by reddish-white.

RED GODWIT.

LIMOSA RUFA, Briss.

PLATE XXII. Fig. 1. 2.

- Limosa rufa*, Briss. Orn. 5. 231. No. 5. t. 25. f. 1.—*Leisler*, Nacht. zu Bechst. Naturg. Deut. Heft 2. 162.—*Flem.* Br. Anim. 1. 107. sp. 151. *Fedoa rufa*, Steph. Shaw's Zool. 12. 77. but the figure that of the Black-tailed Godwit.
- La Barge rousse, Buff. Ois. 7. 504.—*Temm.* Man. d'Ornith. 2. 668. La Barge aboyeuse, ou à Queue rayée, Cuv. Reg. Anim. 1. 488. *Scolopax Lapponica*, Linn. Syst. 1. 246. 15.—*Gmel.* Syst. 1. 667.—*Lath.* Ind. Orn. 2. 718. sp. 15. Red Godwit, *Bewick's* Br. Birds, 2. 80.—*Shaw's* Zool. 12. 77. but not the figure.—*Flem.* Br. Anim. 1. 107. sp. 151.
- Female assuming summer plumage. { *Fedoa Meyeri*, Steph. Shaw's Zool. 12. 75.
Barge Meyer, *Temm.* Man. 1 ed. 434.
Meyer's Godwit, *Shaw's* Zool. 12. 75.
- Male. Summer plumage. { *Fedoa pectoralis*, Steph. Shaw's Zool. 12. 79.
Red-breasted Godwit, ib.
Red-breasted Snipe, *Mont.* Ornith. Dict. Sup. with a figure, but not the synonymy.—Id. in Trans. of Linn. Soc. 9. 198.
- Young, and winter plumage of adult. { *Scolopax leucophæa*, *Lath.* Ind. Orn. 2. 719. 17.
Limosa grisea major, Briss. Orn. 5. 272. t. 24.
Common Godwit, Br. Zool. 2. 179.—*Arct.* Zool. 2. 373.—*Lath.* Syn. 5. 144. 15.—Id. Sup. 245.—*Bewick's* Br. Birds, 2. 78.—*Mont.* Ornith. Dict. 1. but with many of the synonyms of *Limosa melanura*.
Grey Godwit, *Lewin's* Br. Birds, 4. pl. 161.

PROVINCIAL.—Yarwhelp, Yarwhip, Poor Willie, Godwyn.

THIS species, in its general appearance, greatly resembles the preceding, with which indeed, in some of its changes, it has frequently been confounded. It may, however, be al-

ways recognised, under every state of plumage, by the comparative shortness of its legs, in being without the white upon the basal parts of the quills, and in having the tail feathers invariably and distinctly barred. Its manners are also very similar, and it inhabits the same localities; but as its polar migration seems to extend to much higher latitudes than that of *Limosa melanura*, it is found during winter more dispersed upon our northern coasts than that species, whose appearance seldom occurs but at the periods of migratory flight. This bird, in its summer plumage, is described by MONTAGU under the title of the *Red-breasted Snipe*, and he has quoted the names *Scolopax Novoboracensis*, and *S. Hudsonica*, as synonymous; but the first belongs to a very different bird, viz. *Macroramphus griseus* of LEACH (the Brown Snipe of authors), and it appears that *S. Hudsonica*, as I have before mentioned, may be referred either to *Limosa melanura* or *L. Fedoa*. Still greater perplexity and confusion has been thrown upon the group by Mr STEPHENS, in his continuation of SHAW'S Zoology, in which two supposed new species are recorded, viz. *Fedoa Meyeri* (Meyer's Godwit, described indeed as such by TEMMINCK in his first edition of the Manual, but afterwards, in his second edition of the same work, plainly acknowledged to be *Limosa rufa* in a peculiar state of plumage), and *Fedoa pectoralis*, an imaginary species, founded upon MONTAGU'S description of his Red-breasted Snipe, and which he was only led to consider as distinct, from the supposition that the Red Godwit of authors was only referable to *Limosa melanura* (the Jadreka Snipe of MONTAGU), not being aware at the time that a similar change of plumage took place in the Common Godwit.

Periodical
vigrant.

These birds are usually found in small societies, frequenting the mud banks of river-mouths, or inlets of the sea, abounding in oozy shore, where they readily meet with the usual food, viz. worms, aquatic insects, and the smaller univalve and bivalve mollusca. They often mingle with other members of the Scolopacidæ, as the Redshanks (*Totanus cali-*

Food.

dris), Knots (*Tringa canutus*), &c. Their flight is powerful, though not very rapid; and when disturbed and raised on the wing, they generally send forth a cry, not unlike the bleat of the goat. Their flesh is juicy, and of excellent flavour, and on this account they are in great request for the table. In April, the males have acquired the nuptial plumage, after which period they entirely desert our shores, retiring to more northern countries, such as Iceland, Lapland, Sweden, &c. to breed.

PLATE 22. Fig. 1. Represents the male bird in the summer plumage, and of the natural size.

General
description.
Male.
Summer
plumage.

Crown of the head, nape and back part of the neck, pale reddish orange-brown, streaked with blackish-brown; chin and eye-streak reddish-white. Fore part of the neck, breast, and all the under parts pale reddish-brown; the feathers of the belly and abdomen finely margined with white; the flanks and under tail-coverts being streaked with dark hair-brown. Upper part of the back and scapulars blackish-brown, with oval spots and margins of pale orange. Lower part of the back and upper tail-coverts white, with the central parts of the feathers dark hair-brown; some few of the latter being margined with orange-brown. Wing coverts ash-grey, with darker centres, and edged with white. The quills have their outer webs black, the inner ones hair-brown, mottled with white on the outer edge, with white shafts. The tail marked with alternate bars of hair-brown and reddish-white. Bill flesh-red at the base; with the fore-part blackish-brown, and frequently reaching to seven inches in length. Legs having the tibiae much shorter than those of *Limosa melanura*; and of a blackish-grey colour.

Male.
Winter
Plumage.

Fig. 2. Represents the winter plumage of the same species; in which state the crown of the head, the space between the bill and eyes, the neck and breast are greyish-white,

streaked with pale hair-brown. Throat pure white. The belly and abdomen white, with a tinge of yellowish-grey. The flanks, and some of the under tail-coverts streaked with hair-brown. Upper part of the back and scapulars a fine pearl-grey, margined paler; with the shafts and part immediately contiguous greyish-black. Wing coverts white, with centres of hair-brown. The quills are as described in the summer plumage. The tail is barred with hair-brown and greyish-white.

The young, previous to the first change, have the crown Young. of the head streaked with dark hair-brown; the eye-streak and cheeks white, with small pale streaks of wood-brown. The throat white. The neck and breast grey, tinged with wood-brown, and faintly streaked with a darker shade of brown; under parts white, tinged with yellowish-grey. Upper part of the back and the scapulars hair-brown, deeply margined and spotted with pale sienna or ochreous yellow. Lower part of the back, and upper tail-coverts white, with a few spots of pale hair-brown. Tail barred with hair-brown and white. Legs grey. Bill, in many specimens, not exceeding two inches and a-half in length; brown, with a flesh-coloured base.

GENUS MACRORAMPHUS, *LEACH*. LONGBEAK.

GENERIC CHARACTERS.

Bill very long, nearly straight, rather tumid and wrinkled at the base; the tip much dilated, and rugose after death; both mandibles furrowed to within a short space of the point. Nostrils lateral, placed near the base, linear and pervious.

Wings long; the first quill scarcely exceeding the second, and the longest in the wing. Legs long, slender; with the lower parts of the tibiae naked. Feet four-toed; three before and one behind. The outer toe connected with the inter-

mediate one by a membrane as far as the first joint; the inner one not so far; hind toe articulated upon the tarsus, and resting on its tip only. Plumage close and adpressed.

This genus, first established by Dr LEACH, upon the characters presented by the *Scolopax grisea* of authors (Brown Snipe of PENNANT's Arctic Zoology, Red-breasted Snipe of WILSON's North American Ornithology), and which, as yet, remains the only known species, appears to form a link connecting more intimately the Godwits with the Snipes and Woodcocks. In it we find the bill approaching closely in form to that of the latter, and furnished with a nervous apparatus of nearly equal extent, as shewn by the rugosity apparent after death; the tip, however, is proportionally more dilated, and the base thicker, as in the Godwits. Its feet differ from those of the *Scolopaces* by the toes being shorter, and by the outer toe being joined to the middle one by a membrane, or web, extending as far as the first joint, as in the genera *Limosa* and *Totanus*. Its habits and manners, as described by those writers who have had an opportunity of studying them, are also essentially different from those of the true Snipes; and its plumage, as far as regards colour and periodical change, is equally at variance, but in both respects closely assimilated to that of the Godwits. With such peculiarities of habits and form, I concur with Mr STEPHENS in the propriety of retaining Dr LEACH's designation, and separating this bird from the genus *Scolopax*, as now restricted, this being in perfect accordance with its affinities, and the intermediate station it holds with respect to the Godwits and Snipes. Nor do I think it less entitled to a generic distinction than many of the genera established by Mons. TEMMINCK himself, who, in the second edition of his valuable "Manuel d'Ornithologie," has, in strong terms, condemned Dr LEACH for separating it from *Scolopax*, although, at the same time, he has thought it necessary to institute a third sectional division in that genus for the express reception of this bird, as if such

frequent and arbitrary divisions were less likely to burthen the memory than the imposition of a generic title.

The only species of the genus hitherto met with is a native of the northern part of the continent of America; and the two specimens killed in Europe can only be regarded as visitants accidentally driven thither.

BROWN LONGBEAK.

MACRORAMPHUS GRISEUS, Leach.

PLATE XXIV. FIG. 2.

Macroramphus griseus, Leach, Cat. Brit. Mus. p. 31.—Steph. Shaw's Zool. 12. 61. pl. 9.

Becassine ponctuée, Temm. Man. d'Ornith. 2. 679.

Red-breasted Snipe, Wils. Amer. Ornith. 7. 49. pl. 58. f. 1.

Brown Longbeak, Steph. Shaw's Zool. 12. 61, pl. 9.

Scolopax novoboracensis, Gmel. Syst. 1. 658.—Lath. Ind. Ornith. 2. 723. sp. 32.

Totanus novoboracensis, Sabine, Frank. Journ. Appen. 687.

Red-breasted Snipe, Penn. Arct. Zool. 2. p. 368.—Lath. Syn. 5. 153. 26.

Scolopax grisea, Gmel. Syst. 1. 658.—Lath. Ind. Ornith. 2. 724. sp. 33.

Brown Snipe, Penn. Arct. Zool. 2. 369.—Lath. Syn. 5. 154. 26.—Mont.

*Ornith. Dict. 2. and plate in Supp.—Flem. Br. Anim. 1. 106. 1. Strag-
gler.*

} Summer
plumage.

} Winter
plumage.

THE bird now before us belongs to North America, and has been hitherto only twice met with in Europe, one specimen having been killed in Sweden, and the other in England, upon the coast of Devonshire. This latter fortunately came into the hands of the zealous MONTAGU, and was thus introduced into the list of British birds, as an occasional, though very rare visitant. A full description of this species is given by WILSON, in his North American Ornithology, bearing all the marks of that graphic and characteristic style, by which his writings are rendered so generally interesting. From that account, its habits and manners appear to differ greatly from those of the true Snipes and Woodcocks, approaching much nearer to those of the Godwits and Tringas;

Very rare
visitant.

and he adverts in particular terms to the distinctive characters it possesses. It inhabits the sea coasts that abound in marine marshes, or display an extent of soft muddy shore, and is never found in the interior of the country. Upon the coasts of New Jersey, where WILSON made his observations, it arrives early in April, on its return from its equatorial or winter migration, when it has nearly acquired the nuptial plumage; and again in the beginning of August, on its way southward, after having passed the summer in higher latitudes, where it breeds. It flies, he observes, in very large flocks, and performs many evolutions over the marshes, sometimes wheeling, coursing, and doubling along their surface; then shooting high in the air, then separating in various bodies, uttering at the same time a kind of quivering whistle. Such evolutions I have myself also frequently seen performed by the Knots and other species of the Tringas, when associated in large flocks. Some idea of the numbers of these birds may be formed, when the above-mentioned writer tells us, that they occasionally settle so close together, that eighty-five have been killed by a single discharge from a musket, and as their flesh is excellent, and highly esteemed at the table, they are of course eagerly sought after, during their stay in the country, and mown down in incredible numbers by the American sportsmen. At low water they frequent the sand-bars and mud flats, and, from the contents found by WILSON in the stomach of those he dissected, seem to feed principally upon small univalve mollusca. They seldom associate with other species, but keep in flocks by themselves. The nidification, and colour, &c. of the eggs remain undescribed.

General
descrip-
tion.

PLATE 24. Fig. 2. represents this bird, under the title of the *Brown Snipe*, in the summer plumage, and of the natural size.

Summer
plumage.

Crown of the head blackish-brown, having the feathers margined with pale reddish-brown. Between the bill

and eyes is a dark streak. The eye-streak and chin white, tinged with reddish-brown. Nape and back part of the neck blackish-brown, margined with yellowish-brown. Upper part of the back and scapulars black, beautifully margined, and varied with pale reddish-brown and white. The tertials black, with oblique narrow transverse bars of pale brownish-red. Lower part of the back, rump, and tail white, barred transversely with black. Fore part of the neck, breast, flanks, and thighs pale orange-brown, spotted with black. Belly and abdomen reddish-white. Vent and under tail-coverts white, tinged with reddish-brown, and barred with black. Legs and toes greenish-grey. Bill having the point black, and the base wrinkled, and of a deep greenish-grey colour.

In the winter the plumage of this bird is nearly as follows:—The eye-streak, cheeks, and chin white. Between the bill and eye is a dusky streak. Crown of the head, neck, and upper part of the breast, deep-grey, tinged with brown. Upper part of the back and scapulars clove-brown, the feathers being margined with ash-grey and reddish-brown. Wing-coverts hair-brown, with paler margins. The greater coverts, as well as the secondary quills, margined and tipped with white. Lower part of the breast and belly white. Under tail-coverts and vent white, barred with deep hair-brown. Rump and tail as in the summer plumage. Quills deep hair-brown, the shaft of the first quill being white.

Winter
plumage.

GENUS SCOLOPAX, LINN.

GENERIC CHARACTERS.

Bill long, slender, straight; the tip obtuse, rounded, and ending with an internal knob; both mandibles, in dead birds, rugose behind the tip; under mandible shorter than

the upper one, which is sulcated for nearly the whole of its length.

Nostrils basal, lateral, placed in the commencement of the furrow, linear and longitudinal, covered with a membrane.

Wings having the first and second quills of nearly equal length, and the longest in the wing. Legs slender. The tibiae entirely plumed, or else naked for a short way only above the tarsal joint. Feet four-toed; three before and one behind; the former cleft to their origin, the latter short, and resting on the ground only with its tip.

By VIELLOT, and some other recent authors, the Woodcocks have been separated from the snipes, and a genus established for them under the title of *Rusticola*. The character upon which this separation is founded rests, however, entirely upon the tibia of one group being feathered down to the tarsal joint, while in the other it is naked for a short space above it. It must not be omitted that, in addition to this peculiarity, the two groups differ also in their habits; the Woodcocks being (at least through the day-time), inhabitants of the forests and thickest underwood, whilst the Snipes, on the contrary, resort to exposed marshy districts and moist meadow land. The distinctive character, however, being of so slight a nature, I have determined (although an advocate for generic division, wherever the difference of form is such as to indicate a material difference of economy), to retain them under the same generic title; at least till some other better marked character be recognised, upon which to found the division. The mode of feeding, and quality of their food, are nearly the same in both groups, consisting of earth-worms and insects; and, although the Woodcocks pass the day in rest, and the retirement of close thickets, they invariably, during night, repair to open glades and meadows to seek their subsistence. Both groups are subject to a double moult, but the change in spring is not different from the usual plumage in the disposition of the colour and

markings, though more intense and brilliant in tint. They are solitary birds, and generally live isolated, except during the season of reproduction, or at the periods of migration. They are distinguished from the rest of the *Scolopacidae* by the square form of the head, and by the eyes being seated so far backward, a provision which gives them a very free compass of sight, and allows them to plunge the bill deeper in the soft ground in search of their prey.

WOODCOCK.

SCOLOPAX RUSTICOLA, Linn.

PLATE XXIII. FIG. 1.

- Scolopax rusticola*, Linn. Syst. 1. 243. 6.—Gmel. Syst. 1. 660.—Lath. Ind. Ornith. 2. 713. 1.—Shaw's Zool. 12. 44. pl. 7.—Flem. Br. Anim. 1. 105. sp. 145.
Scolopax, Briss. 5. 293. 1.—Raii Syn. 104. A. 1.—Will. 213. 53.
 La Becasse, Buff. Ois. 7. 462. 25.
 Becasse ordinaire, Temm. Man. d'Ornith. 2. 673.
 Wald-schneppe, Bechst. Naturg. Deut. 4. 158.—Meyer, Tasschenb. Deut. 2. 361.
 Woodcock, Br. Zool. 2. No. 178. t. 65.—Arct. Zool. 2. 470. A.—Will. (Angl.) 289. t. 53.—Albin. Br. Birds, 1. t. 70.—Lath. Syn. 5. 129. 1.—Mont. Ornith. Dict. 2.—Id. Sup.—Bewick's Br. Birds, 2. t. p. 60.—Shaw's Zool. 12. 44. pl. 7.

THIS well-known bird, so favourite an object of pursuit with the sportsman, and so highly esteemed by the epicure, can only be considered as a regular winter visitant; for although instances are not wanting of Woodcocks remaining through the summer, and even breeding in extensive woods in different parts of the kingdom*, they are still too few, I think, to warrant its admission as an indigenous species. I have, however, heard it asserted of late, that such instances are increasing, and that there are districts in which these birds may be found at all seasons in the year; among others,

Periodical
visitant.

* See BEWICK'S British Birds, Art. Woodcock; and MONTAGU'S Ornithological Dictionary and Supplement, where well-authenticated instances are given.

the extensive woody tracts in the neighbourhood of Dunkeld and Blair-Athol, planted by the late Duke, have been mentioned; a situation, indeed, to all appearance particularly favourable to their habits, exhibiting a great variety of surface covered with wood, and at the same time affording such a profusion of springs, open glades, and moist ground, as to insure to them a constant and abundant supply of food. In Northumberland, the Woodcock has been known to breed in the woods about Netherwitton, and I have now in my collection eggs taken from a nest in Pigdon Wood, not far from Morpeth. In this instance the female appeared not to have had a mate, as the eggs were found to be all addled after she had sat upon them with great assiduity for nearly a month, towards the conclusion of which time she had become so weak as to be scarcely able to rise from the ground.—The first autumnal flight of the Woodcock, on its retreat from the northern countries of Europe, where it breeds and passes the summer, generally takes place towards the end of September or beginning of October; but as this consists of birds whose flight is directed to more southern latitudes than our islands, a few stragglers only remain; or the flight, after resting for a day, proceeds on its course to Portugal, and so onwards to the farthest limit of its equatorial movement. The direction taken by such a great and successive column of these birds, under migration from the north to the southern parts of Europe and Northern Africa, being in a great measure intersected by the south-western coasts of England and Ireland, accounts for the abundance of them in Devonshire, Cornwall, and the countries thus situated, and the still greater numbers found in the southern and western districts of Ireland, compared with the other parts of the kingdom. It is thus also that Woodcocks are generally first observed in these positions, and sometimes long before they are seen in the north of England or Scotland. The succeeding flights, which continue at intervals during October and the two following months, becoming each more limited in extent,

the whole country gradually receives its accession of winter visitants, those that take up their haunt in the northern counties of England and Scotland seldom arriving before the middle of November or the beginning of December; the earlier flights, when they do alight in the country, merely remaining for a day, and then passing on to the southward. From this latter circumstance, the search for Woodcocks in Northumberland, in the beginning of the season, is very uncertain, and, to insure success, attention must be paid to the state of the weather and the direction of the wind. I have found that they always come over in the greatest bodies in hazy weather with little wind, and that blowing from the north-east; and it is probable that they then find the upper region of the atmosphere (in which they fly) freer from counter currents of air, than in more open weather. After a night of this description I have frequently met with great numbers upon the edges of plantations, in hedges, and even in turnip fields, and enjoyed excellent sport for the day; but on seeking, on the following morning, for a renewal of the like success, I have not found a single bird, the whole flight having proceeded on their course during the intervening night. It is during this time that Woodcocks, like most migratory birds, perform their journeys; and it seems probable that those which halt upon the eastern coast of Scotland, and the northern counties of England, have completed their task from shore to shore, between sunset and sunrise, as they appear but little fatigued on their arrival, provided the weather has been calm. The distance of the coasts of Norway and Sweden, from whence these visitors are supposed to come, offers no objection to this supposition, as a continued flight of eight or ten hours, even at a rate inferior to what I conceive they are capable of accomplishing, would suffice for the transit. Another argument in favour of this supposition, is the high state of condition in which the birds generally arrive on our shores, especially at an advanced period of the season, by no means indicating the

wasting effects of very long-continued exertions. From the facts I am about to mention, it appears that they fly at a considerable altitude (as indeed do most birds when performing their migratory movements), to avoid, it is presumed, the currents of air so frequent near the surface of the earth. A respectable person who lived upon the coast, and who, being a keen pursuer of wildfowl, was in the habit of frequenting the sea-shore at an early hour in the morning, assured me that he had more than once noticed the arrival of a flight of Woodcocks coming from the north-east just at day-dawn. His notice was first attracted by a peculiar sound in the air over his head, that, upon attending to, he found proceeded from birds descending in a direction almost perpendicular; and which, upon approaching the shore, separated, and flew towards the interior. Some of them he observed to alight in the hedges immediately adjoining the coast; these he pursued and shot, and which proved, as he surmised by the view he had of them as they flew past him, to be Woodcocks. The haunts selected by these birds, for their residence during the day-time, are usually the closest brakes of birch and other brushy underwood, and where the ground, from the deep shade, is nearly free from herbage; and, for this reason, thick fir plantations of ten or twelve years' growth are a favourite resort. In woods that are very extensive they are generally found, and abound most in thickets by the sides of open glades, or where roads intersect, as by these they pass to and from their feeding ground at evening and in the dawn of the morning. Unless disturbed, they remain quietly at roost upon the ground during the whole day, but as soon as the sun is wholly below the horizon, they are in full activity, and taking flight nearly at the same instant, leave the woods and cover for the adjoining meadows, or open land, over which they disperse themselves, and are fully engaged in search of food during the whole night. Advantage has long been taken of this regular mode of going to and returning from the feeding grounds, by the fowler, in

those districts where Woodcocks are abundant, by suspending nets across the glades, or by the sides of hedges where they are observed to pass continually; and, though the adoption of the fowling-piece has in general superseded the modes of capture formerly practised, great numbers are still taken in this manner in Devonshire and Cornwall. Another method of entrapping Woodcocks (as well as Snipes) is by the springe, which is set in places where those perforations made by the bill of the Woodcock in search of food, and technically called *Borings*, are observed to be most frequent. It is formed of an elastic stick, of which one end is thrust into the ground; the other having affixed to it a noose made of horse-hair; the stick being then bent down, this noose is passed through a hole in a peg fastened to the ground, and is kept properly expanded by means of a fine trigger, so set as to be displaced by the slight pressure of the bird's foot. To conduct them to this trap, a low fence of twigs, or of stones placed so closely together as to leave no passage through the interstices, is extended to some distance on each side of the springe, and generally in an oblique direction; over which obstacle, however trifling, it seems the birds never attempt to hop or fly, but keep moving along it, till they approach the part occupied by the noose of the springe: upon attempting to pass through this apparently open space, they displace the trigger, and are almost invariably caught by the noose, and retained by the spring of the stick against the opposing peg.—Day being the Woodcock's time for repose, it sits very close, and is not easily *flushed*; the sportsman then requiring the aid of the busy spaniel, or the bush, in which it is ensconced, to be actually beaten by an attendant, before it will take wing. It rises, however, with much quickness, and threads its way through the branches with great rapidity, until the underwood and trees are fairly cleared, when its flight becomes measured, and offers an easy aim to the sportsman. When roused, it seldom flies to any great distance, but alights in the first thicket that attracts

Flight.

Food.

its attention, closing its wings, and dropping suddenly down, and in such cases it is not unusual for it to run a little way before it squats. Just before rising, upon being disturbed, or when running, it jerks its tail upwards, partly expanding it, and fully shewing the white that distinguishes the under surface of the tips of the tail feathers.—In feeding, the Woodcock inserts its bill deep into the earth in search of worms, which are its favourite and principal food. This instrument is most admirably calculated for the offices it has to perform when thus immersed in the soil; for, in addition to its great length, it possesses a nervous apparatus distributed over a great portion of its surface, and especially on such parts as are likely to come first into contact with its prey, giving it the sense of touch in the highest perfection; and to enable it to secure the object thus detected by the discriminating sensibility of the bill, it is further provided with peculiar muscles (common, I believe, to all the members of the genus), which, by compression of the upper or basal part of the bill, are brought into action, so as to expand the tips of both mandibles sufficiently wide, to lay hold of and draw forth the hidden treasure. The digestion of this bird is rapid, and the quantity of worms it can devour in the course of a night is astonishing. I have known one, that consumed at a meal (that is, within the night), more large earth-worms than half filled a garden-pot of considerable size. It may, however, by management, be brought to eat other food; as MONTAGU mentions one that was induced to feed on bread and milk, by worms cleanly washed being put into a mess of that kind; and, by this practice being persisted in, the bird soon acquired a relish for this new sort of aliment, and, with the addition of a few worms, thrive well upon it. The flesh of the Woodcock, when in condition, is highly and deservedly esteemed, being juicy meat, and of delicate flavour; indeed so excellent has it been considered by the epicure, that no portion was suffered to be lost, and we therefore always see it customarily dressed with the entrails undrawn, and serving

as a savoury addition to the rest of the flesh: in the same manner also Snipes are universally treated. Towards the latter part of February, when the vernal change of plumage commences, the flesh of these birds loses its fine flavour, and becomes strong, the skin also turns dry and scurfy, and they are rarely fit to be presented at the table; soon after which time they begin to pair; and, going off in succession, by the middle of April the whole have re-migrated to higher northern latitudes, where they breed and pass the summer months. During the period of their returning flights, should the wind, then blowing from the south and south-west, suddenly veer round to the north-east, we frequently have an accumulation of Woodcocks on the eastern coast; but (as I have before observed) they are now out of condition, and therefore never pursued by the sportsman with the same eagerness as in the early part of the season.—The nest of this bird is generally in thickets, and placed near the root of a bush or tree, and is formed merely by a slight hole, lined with a few dead leaves and stems of grass; and the eggs (which, as far as I can ascertain, are always four in number), are of yellowish-white, blotched with a pale chestnut-brown colour. In Sweden, and other parts of the continent where it breeds in abundance, the eggs are now considered a delicacy for the table, as those of the Green Lapwing have long been in England; and to this destruction of the breed has been attributed the decrease of Woodcocks so generally complained of by our sportsmen for some years past. Its geographical distribution embraces a great part of the ancient continent, as there are few countries within the temperate and frigid zones in which it is not known either as a winter or summer visitant. It has not hitherto been met with in America, but is there represented by a nearly allied species, the *Scolopax minor* of authors. Being a nocturnal feeder, the eyes of the Woodcock are large and prominent, in order to collect the scattered and indistinct rays of twilight; their situation also is peculiar, being placed far back in the head,

Nest, &c.

and nearly on a level with the crown, which gives its head, and those of the Snipes, a square compressed form, not seen to that degree in any other members of the *Scolopacidae*. The above-mentioned peculiarity, however, enables these birds to probe the ground to a greater depth without inconvenience, and at the same time considerably extends the sphere of vision.

The female (contrary to the account given in SHAW'S Zoology), generally exceeds the male bird in size; she also has less of the white and greyish-white upon the back and scapulars, and the under parts are of a redder tinge. The outer web of the first quill-feather is also barred for the whole of its length, which, in the male, is often entirely white, or with a few faint bars near to the tip only.

PLATE 23. Fig. 1. Represents the Woodcock of the natural size.

General description.

Bill flesh-red, tinged with bluish-grey, increasing in intensity of colour towards the point; in the living bird smooth, but becoming wrinkled or rough near the tip, by the desiccation of the nervous fibres, soon after death. Forehead and crown grey. From the corners of the bill to the eyes is a streak of deep brown. Hind part of the head, and nape of the neck, having four broad brownish-black bars, the intermediate spaces being reddish-white. Chin white. On each side of the front of the neck is a patch of brown, more or less distinct in different individuals. Upper parts of the plumage a mixture of chestnut-brown, pale ochreous yellow and grey, with large spots and zigzag transverse lines and bars of black; the black most intense upon the back and scapulars. Rump and tail-coverts pale chestnut-brown; some of the latter with pale reddish-white tips and narrow transverse bars of black. Tail black, more or less varied with chestnut-brown; the tips of the feathers grey above, and pure white below.

Quills dusky ; the outer webs having triangular bars of chestnut-brown. First quill-feather in the males imperfectly barred near the tip, or immaculate ; in the females generally barred throughout the whole length. Under parts greyish-white, tinged more or less with yellowish-brown, and transversely barred with hair-brown. Vent and under tail-coverts yellowish-white, with triangular centres of black. Legs livid or flesh-red, tinged with grey. Lower part of the tibia feathered.

GREAT SNIPE.

SCOLOPAX MAJOR, Gmel.

PLATE XXIII. FIG. 2.

Scolopax major, Gmel. Syst. 1. 661.—*Lath.* Ind. Orn. 2. 714. 4.—*Flem.* Br. Anim. 1. 105. sp. 146.
Gallinago major, Steph. Shaw's Zool. 12. 51. pl. 8.
 Grande ou Double Bécassine, Temm. Man. d'Ornith. 2. 675.
 Great Snipe, Br. Zool. 2. No. 188.—*Arct. Zool.* 2. 470. B.—*Lath.* Syn. 5. 133. 4.—*Mont.* Ornith. Dict. 2. and Sup.—*Bewick's Br. Birds*, 2. 67.—*Shaw's Zool.* 12. 51. pl. 8.

PROVINCIAL.—Solitary Snipe.

THE Great, or, as it is frequently called, the *Solitary* Snipe, is known to us as an occasional visitant, from a few stragglers being now and then driven upon our coasts during their periodical migrations, the immediate direction of their latitudinal flight being much to the east of the longitude of the British Islands. Such instances, as far as I have been able to ascertain (and all those which have fallen under my own observation), have occurred during the autumnal or equatorial movements of these birds, when, quitting the colder regions of the northern parts of Europe, where they breed and pass the summer months, they seek more genial climates, and in which, from the mildness of the winter and absence of severe frost, they are certain of obtaining a constant supply of food. MONTAGU mentions birds of this species hav-

Occasional visitant.

ing been killed in the counties of Kent, Wiltshire, and Lancashire. In Northumberland several instances have come under my own knowledge within the last eight or ten years, and the specimen from which the figure in Plate XXIII. is taken, was killed in October 1822 on some boggy ground within a short distance of Twizell. In the year 1826, being a very dry and warm season, they seem to have visited us in more than usual numbers, as several individuals were killed in different marshes; and I am informed that not less than five or six were shot on one morass not far from Sedgfield, in the county of Durham. In general appearance the Great Snipe bears a strong resemblance to the common species (*Scolopax Gallinago*), and in all probability this resemblance has frequently caused the former to have been confounded with the latter, or at any rate to have been considered merely as a large variety of it. Its bulk is always much greater, and its weight averages about eight ounces and a half. The bill being smaller and shorter in proportion to its size, the tarsi thicker and not so long, and the belly and abdomen always barred with brown and white, afford never-failing indications of the species. When flushed, the Great Snipe generally utters a cry in some degree similar to that of the common species, but shorter and hoarser; its flight is not so rapid, nor does it perform the same twisting evolutions when first forced upon wing, but moves in a direct manner, not unlike the Woodcock. Like the rest of the genus, it feeds upon worms and insects, obtained by boring the marshy ground and mud with its bill, which shows in its *post-mortem* examination the same roughness near the tip that distinguishes all the true Snipes and Woodcocks, and which, as I have before observed, is caused by the drying and consequent contraction of the nervous papillæ distributed over its surface. This species is spread over a great part of Continental Europe, particularly towards the east and over the north of Asia. In most countries it is migratory, retiring during summer to the vast marshes of the north. TEMMINCK mentions having received a specimen

Food.

from North America; but I have never obtained it from that country, nor does WILSON, or any other American ornithologist, include it in the list of birds belonging to that quarter of the globe. The Snipe common to that country, long supposed to be *Scolopax Gallinago*, is now ascertained to be a distinct species.

The Great Snipe breeds in marshes, selecting a tolerably dry spot near to some standing water, and the materials of the nest, which are scanty, are collected from the decayed grasses and water-plants immediately around. The four eggs which it lays are very similar to those of the Common Snipe, being (according to the authors who have described them) of a yellowish-white, or very pale oil-green, blotched with dark brown. As a delicacy, its flesh is in high estimation, being equal, if not superior, to that of the common species.

Nest, &c.

PLATE 23. Fig. 2. Represents this bird of the natural size, from a very perfect specimen killed near Twizell in October 1822, and which weighed nearly nine ounces.

Bill of a pale brown colour, inclining to flesh-red at the base, with the tip blackish-brown. Between the bill and eyes is a narrow streak of rich chestnut-brown. Crown of the head blackish-brown, with a few specks of reddish-brown, with a central streak of cream-coloured white. Eye streak, cheeks, and throat, cream-yellow, finely speckled with brown. Hind part of the neck pale ochreous yellow, spotted with brown. Fore part of the neck yellowish-white, with large angular brown spots. Back brownish-black, varied with pale chestnut-brown; the outer webs of the feathers having a broad yellowish-white margin. Shoulders and scapulars yellowish-brown, and on each feather a large black bar near the tip, and the outer webs with white edges. Tertiaries barred with black, and margined with a double line of black and yellowish-white. Lesser wing-coverts marbled with black and yellowish-brown,

General description.

and tipped with white. Greater coverts black, tipped with white. Quills dusky, or deep hair-brown. Breast, sides, and flanks white, with triangular transverse bars of deep hair-brown. Belly the same, with smaller hair-brown undulations or bars. Thighs barred, hair-brown and white. Tail consisting of sixteen feathers; the two centre ones black for two-thirds of their length; the remaining part of a bright chestnut-brown colour, with a narrow black bar near the tip, which is itself reddish-white; and the outer feathers white, barred with hair-brown. Upper tail-coverts yellowish-brown, barred with black. Legs yellowish-grey, tinged with brown.

SABINE'S SNIPE.

SCOLOPAX SABINI, Vigors.

PLATE XXIV. FIG. 1.

Scolopax Sabini, Vigors in Trans. of Linnean Society, vol. xiv. 556.—*Jardine and Selby's Illus. of Ornith.* vol. i. pl. 27.—*Flem. Br. Anim.* 1. 105. sp. 147.

Sabine's Snipe, Vigors, &c. as above.

THIS recent addition to the list of British birds, was first recognised by Mr VIGORS, and described by him under its present title in the fourteenth volume of the Transactions of the Linnean Society, from an individual killed in Queen's County, Ireland, in August 1822, and which, fortunately for science, was sent to him on the same day that it was shot, as presenting a remarkable deviation from the usual plumage of the common species. This specimen now enriches the collection of the Zoological Society in London, having been presented to it by Mr VIGORS, together with a numerous and very valuable assortment of other birds. A second instance afterwards occurred, in that of a female (agreeing in every respect as to plumage and general proportion with the bird first described) which was shot on the banks of the

Medway, near Rochester, in October 1824, and is now preserved in the excellent collection of Mr DUNNING of Maidstone. Since that time, no instance of the capture of this species has come to my knowledge, although I have used all diligence on the subject, not only in England and Scotland, but also in Ireland, where it was first discovered, and where the nature of the soil, and the abundance of marshy tracts, are peculiarly favourable to birds of this genus. The above indicates that, as a species, it is very sparingly distributed throughout the kingdom; and, from the circumstance of no skin or specimen having been hitherto obtained from any other part of the globe, it would appear to be equally rare in such countries as have been examined with attention, as far as regards their ornithological productions. I do not, however, make these remarks, as questioning in any degree its claim to be considered a distinct species (of which I entertain no doubt, both from the accurate description of Mr VIGORS, and from personal inspection of the original specimens), but merely as noticing its present apparent rarity. It is not at all improbable, but that it may be discovered in abundance in some hitherto unexamined part of the world, or where ornithology has been little attended to; and I need scarcely add, what is well known to most practical naturalists, viz. that species, in every department of nature, are frequently very restricted and local in their distribution.

In giving the distinctive characters of this species, I cannot do better than quote Mr VIGORS's own words:—"It is at once distinguished from every other European species of *Scolopax*, by the total absence of white from its plumage, or any of those lighter tints of ferruginous-yellow, which extends more or less in stripes along the head and back of them all. In this respect it exhibits a strong resemblance to *Scolopax saturata* of Dr HORSFIELD, from which, however, it sufficiently differs in its general proportions; and I find no description of any other extra-European species of true *Scolopax* which at all approaches it in this character of its plumage. In the number of its tail-feathers, again, which

amount to *twelve*, it differs from *Scolopax major*, which has sixteen, and *Scolopax Gallinago*, which has fourteen; it agrees, however, in this point, with *Scolopax Gallinula*, which also has but twelve; but it can never be confounded with that bird, from the great disproportion between the essential characters of both: the bill alone of *Scolopax Sabini* exceeding that of the latter species by one-third of its length. In the relative length and strength of the tarsi it equally differs from all. These members, although stouter than those of *Scolopax Gallinago*, fall short of them by $\frac{3}{20}$ ths of an inch; they are much weaker, on the other hand, than those of *Scolopax major*, although they nearly equal them in length." Such are the characters that distinguish it from all the other species of Snipes, and which, independent of the peculiarity of plumage, are sufficient to entitle it to rank as specifically distinct. Of its general economy I can say nothing; but, judging from analogy, it may be inferred that in this point it bears a close resemblance to the rest of the genus *.

PLATE 24. Fig. 1. Represents the bird of the natural size, taken from the above mentioned specimen, in the museum of the Zoological Society.

General
description.

Head, throat, and neck brownish-black, speckled with obscure chestnut-brown. Belly and vent brownish-black, barred with chestnut-brown. Back and scapulars black, with obscure chestnut-brown bars and spots. Under wing-coverts brownish-black. The tail consists of twelve feathers, the basal half of which are black; the remaining part chestnut-brown, with black fascia. Bill (which is two inches and seven-tenths in length) blackish-brown, passing into yellowish-brown at the base. Legs and feet blackish-grey. Tarsus an inch and a quarter long.

* Since the above account was put to press, I have received a fresh specimen of this rare Snipe from Morpeth, possessing all the characteristics of Mr VIGORS's bird. The under parts are perhaps a little darker, having fewer bars or undulations of the lighter tint.

COMMON SNIPE.

SCOLOPAX GALLINAGO, Linn.

PLATE XXIII. FIG. 3.

Scolopax Gallinago, Linn. Syst. 1. 244. 7.—Gmel. Syst. 1. 662.—Lath. Ind. Orn. 2. 715. 6.—Raii Syn. 105. A. 2.—Will. 214. t. 53.—Flem. Br. Anim. 1. 106. sp. 148.

Gallinago media, Steph. Shaw's Zool. 12. 54.

Scolopax gallinaria, Gmel. Syst. 1. 662.—Lath. Ind. Orn. 2. 715. 7.

Bécassine, Buff. Ois. 7. 483. 26.

Bécassine ordinaire, Temm. Man. d'Ornith. 2. 676.—Lesson, Man. 2. 266.

Heerschneppe, Bechst. Naturg. Deut. 4. 185.—Meyer, Tasschenb. Deut. 2. 363.

Snipe or Snite, Penn. Br. Zool. 2. No. 187. 68.—Arct. Zool. 2. No. 386.—Will. (Angl.) 290. t. 53.—Albin. 1. t. 71.—White's Hist. Selb. p. 29.—Lath. Syn. 5. 134. 6.—Pult. Cat. Dorset. p. 14.

Common Snipe, Mont. Ornith. Dict.—Flem. Br. Anim. 1. 106. sp. 148.—Shaw's Zool. 12. 54.—Bewick's Br. Birds, 2. 68.

PROVINCIAL—Heather Bleater, Whole Snipe.

THE Common Snipe is the only British species that can properly be considered indigenous, considerable numbers remaining with us constantly, and merely changing their places of resort, according to the state of the weather, or the season of the year. Early in spring, the great body of these birds that remain in the country retire to the boggy grounds of the moors in the northern parts of England and the Highlands of Scotland, ascending to very high elevations wherever the surface is congenial to their habits. Some few, however, remain and breed in the fens and marshy lands of the lower and more southern parts of the island. Towards the end of March, or beginning of April, Snipes having nearly perfected their summer or nuptial plumage (which only differs from that of the winter in the clearness and brilliancy of its tints), select appropriate places for nidification, and the male bird commences his calls of invitation for a mate. These are always uttered upon the wing, and consist of a piping or clicking note often repeated, and accom-

panied at intervals by a humming or bleating noise, not unlike that of a goat, apparently produced by a peculiar action of the wings, as the bird, whenever this sound is emitted, is observed to descend with great velocity, and with a trembling motion of the pinions. At this season it soars to an immense height, remaining long upon the wing; and its notes may frequently be heard when the bird itself is far beyond the reach of sight. These flights are performed at intervals during the day, but more commonly towards the evening, and are continued during the whole time that the female is engaged in incubation.—The nest is usually placed under the shelter of a bush of heath, or a tuft of rushes in the bogs so common upon all our northern moors, and is formed by lining a slight depression in the earth with decayed grasses, pieces of heather, and other dry materials. The eggs, four in number, are of a yellowish-grey, inclining to oil-green, blotched with brown of two different shades, and always placed, like those of other birds of this order, with the smaller ends inwards. The young, as soon as hatched, quit the nest, and are then covered with a parti-coloured down of brown, white, and yellowish-grey, as shewn in Fig. 4, which represents one about eight days old; and this is rapidly succeeded by a plumage very similar to that of the adults, but darker in its shades. The young are attended by the parent birds till they are almost fully fledged, and capable of providing for themselves. The bill, upon their exclusion from the shell, is very short, and does not acquire its full dimensions for two or three months; and the young birds may be known by the flexibility and tenderness of this member, after every other indication of immaturity has disappeared. As autumn advances, they begin to change their haunts, and descend to the lower parts of the country, and are then to be found in all the fenny districts, in moist pastures, wet stubbles, and, indeed, in every situation likely to afford the requisite food, viz. worms and insects—obtained in a similar manner to the rest of this genus, by probing the soft earth

Nest, &c.

Food.

and mud with their bills. They seldom remain long in one situation, moving from place to place, under the regulation, as it would appear, of the state of the weather, and the prevalence of particular winds; so that the sportsman who has enjoyed excellent snipe-shooting one day, may find the same spots entirely deserted on the following. In severe frosts, and when the ground is covered with snow, they are compelled to betake themselves to the heads of springs, that from their higher temperature remain unfrozen; in which places they obtain a partial supply of food, but should the frost be of long continuance, that source of provision becomes exhausted, and the birds are so emaciated as scarcely to be able to fly, and many perish from actual want. When living separate, or stationary for a time in any particular haunt, the Snipe, as the sportsman terms it, lies very close, and is seldom flushed till very nearly approached; but, if moving about in numbers together, it is more impatient of approach, and the well known alarm-cry of the first that rises is certain to call up all the rest upon wing in rapid succession. When disturbed, it always utters its cry of alarm as it springs upon the wing, which cry may be compared to the word *chis-sick* lispingly pronounced. At first it flies in a horizontal direction near to the ground, moving in a zigzag course against the wind; but, after proceeding thus about sixty or eighty yards, it springs up into the air to a great height, where it continues flying till attracted by some other appropriate spot, upon which it descends almost perpendicularly with the rapidity of an arrow. In addition to our native Snipes, great flights come annually from Norway, and other northern parts of Europe; and in Northumberland I have observed that they arrive in the greatest numbers in the beginning of November. The geographical distribution of this species, I am inclined to think, is not so extensive as has been hitherto supposed, and which, by many ornithologists, has been stated as occupying the greater part of the globe; but writers appear to have mistaken other species for it, bear-

Flight.

ing a strong resemblance in general appearance, but which, upon investigation and comparison, are found to possess characters essentially distinct; such is the Snipe of North America (*Scolopax delicata* of ORD), another belonging to Southern Africa, and two or three from Asia. *Scolopax Gallinago*, as far as my observation serves, appears confined to Europe, and the north of Asia. The flesh of the Snipe is delicately flavoured, and of course in great estimation for the table; and in autumn, and the milder parts of winter, when a plentiful supply of food is to be obtained, it becomes very fat and delicious, and is always dressed, like the Woodcock, without extracting the entrails, which are considered not the least savoury part of the bird. In the fens, Snipes are sometimes taken by lark-nets, and the springe (which I have described above, under the article *Woodcock*), is also occasionally used to capture them; but the favourite mode of pursuit is with the gun, as they afford an inviting trial of skill to the sportsman, from the quickness and oblique movements of their flight. From the disposition of the colours in its plumage, assimilating so well with the situations it inhabits, there is difficulty in discerning this bird upon the ground, and this is increased by its squatting closely down the moment an intruder approaches. I have now, for many years, been in the habit of shooting great numbers of Snipes, and although well acquainted with the exact spots they are accustomed to frequent, very few instances have occurred in which I have obtained a sight of the bird, previous to its taking wing. In the bogs of Ireland Snipes are very abundant.

PLATE 23. Fig. 3. Represents this bird of the natural size.

General
description.

Bill yellowish-brown, inclining to flesh-red at the base, and darker towards the tip. Streak between the bill and eye dark brown. Crown of the head blackish-brown, divided down the centre by a line of yellowish-white. Chin and throat white. On each side of the

fore part of the neck is a streak composed of umber-brown spots. Lower part of the neck and breast pale yellowish-brown, with a grey tinge, spotted and barred with dusky or blackish-brown. Abdomen and thighs pure white. Flanks barred with deep hair-brown. Back and scapulars velvet-black, with a purplish or bronzed reflection, barred with pale chestnut-brown, and having the outer webs of the feathers deeply edged with cream-yellow. Wing-coverts hair-brown, barred with pale chestnut-brown, and tipped with reddish-white. Quills black; the first having its outer web nearly white. Tail consisting of fourteen feathers, black for two-thirds of their length; the rest being reddish-brown with a black bar, and with reddish-white tips. Upper tail-coverts yellowish-brown, barred with hair-brown. Legs and feet deep ash-grey, or lead-coloured.

The plumage of both sexes is similar, but the female generally exceeds the male bird in size.

JACK SNIFE.

SCOLOPAX GALLINULA.

PLATE XXIII. Fig. 5.

Scolopax Gallinula, Linn. Syst. 1. 244. 8.—Gmel. Syst. 1. 662.—Lath. Ind. Orn. 2. 715. sp. 8.—Flem. Br. Anim. 1. 106. sp. 149.

Gallinago minima, Raii Syn. 105. A. 3.—Will. 314.—Steph. Shaw's Zool. 12. 57.

Gallinago minor, Brisson. Orn. 5. 303. 3. 26. f. 2.

La Petite Bécassine, Buff. Ois. 7. 490.

Bécassine sourde, Temm. Man. d'Ornith. 2. 678.

Moorschnepp, Bechst. Naturg. Deut. 4. p. 196.—Meyer, Tasschenb. Deut. 2. 364.

Jack Snipe, Gid, or Judcock, Penn. Br. Zool. 2. No. 189. t. 68.—Arct. Zool. 2. 367.—Will. (Angl.) 291.—Albin's Br. Birds, 3. t. 81.—Lath. Syn. 5. 136. 8.—Mont. Ornith. Dict. 2.—Bewick's Br. Birds, 2. 73.—Shaw's Zool. 12. 57.—Flem. Br. Anim. 1. 106. sp. 149.

THIS is the smallest species of true *Scolopax* hitherto dis-

Periodical
visitant.

covered, scarcely equalling by one half the bulk of the Common Snipe, its length averaging about eight inches, and its usual weight, when in full condition, seldom exceeding two ounces and a quarter. With us it is a periodical winter visitant, its summer retreat being in much higher northern latitudes, where it nidificates and breeds in the vast swamps of those desolate regions. The first flights generally arrive as early as in the second week of September, as I have seldom failed to meet with it in a favourite haunt between the 14th and 20th of that month. Its stay is usually prolonged to the end of February, or beginning of March, according to the rigour of the season; it then quits us for polar latitudes, and the desertion seems, in the case of this bird, to be very general, I may say universal, for I have not succeeded hitherto in detecting a single instance of its remaining during the summer, or breeding in any of our fens; nor do any of our writers on this branch of natural history mention an authenticated fact of this kind. I have, indeed, been told at different times of Jack Snipes to be seen in certain bogs, as well as their nests and eggs,—but these, in every instance, proved on investigation to be *Dunlins* or *Purres* (*Tringa variabilis* of TEMMINCK); which is a bird nearly of the same size, and in its summer plumage, and on the wing, very liable to be mistaken for the Judcock. The resort of this Snipe is always to the softest and most miry parts of bogs, where vegetation has made but partial advances; and in the uncovered places of these it probes for its food, consisting of small aquatic worms and insects, and its bill (which measures about one inch and a half in length) possesses the same delicacy of feeling, being furnished with the same nervous and muscular apparatus as the other species of this genus. This bird sits very close, and will allow itself to be almost trodden upon before it can be forced upon wing; its flight then is more direct, and without the twisting evolutions of the common species, resembling that of the Woodcock, when flying in open space, the wings being con-

Food.

siderably bent, and forming an acute angle with the body. It seldom flies to any distance, but drops in the first miry spot that presents itself, from whence it is roused with even more difficulty than at first. It utters no alarm-cry when it rises, nor have I been able to discover any note belonging to this species.—Of its nidification I can only speak after Nest, &c. other writers, who state the site of the nest to be in bogs and morasses, and TEMMINCK enumerates the eggs as four or five; the *former* of which is, in all probability, the correct number, as this appears the usual quantity laid by all the *Scolopacidae*; and I believe the same holds good with respect to the *Charadriadae*. Its geographical distribution seems confined to Europe and Northern Asia; although LATHAM, in his Index Ornithologicus, mentions it also as an American species, in which he is followed by STEPHENS and other compilers. This, however, requires corroboration, more particularly as it is not enumerated by WILSON; or by any other writer who has treated upon the birds of that country. In the delicacy and flavour of its flesh it is equal to its congeners, and, considered in this point of view, is not too diminutive to attract the aim of the sportsman. In open and mild weather it soon becomes exceedingly fat, and as speedily loses its condition in severe frosts, when its feeding-ground is restricted to the heads of springs and unfrozen ditches.

PLATE 23. Fig. 5. represents this bird of the natural size.

Bill black at the tip, fading into grey, with a tinge of flesh-red, towards the base. From the bill, over the eye and down to the nape of the neck, is a broad streak of cream-yellow. Between the bill and eye is a streak of amber-brown. The ear-coverts have a mixture of white and brown, each feather being tipped with black. Crown of the head black; the feathers being margined with reddish-brown. Throat white. Lower part of the neck and the breast pale yellowish-brown, tinged with

General
description.

grey, and spotted with blackish-brown. Back and scapulars black, with bronze and purple reflections; the latter feathers being long and narrow, with their outer webs of a rich cream-yellow, and forming two conspicuous bands down the back. Wing-coverts black, margined with pale brown and white. Tail consisting of twelve feathers, brownish-black, and margined with pale chestnut-brown. Abdomen white. Legs and toes greenish-grey.

GENUS MACHETES, *CUVIER*. RUFF.

GENERIC CHARACTERS.

BILL straight, rather slender, as long as the head, with the tip dilated and smooth. Upper mandible laterally sulcated for four-fifths of its length. Culmen rounded. Nostrils basal, lateral, linear, placed in the commencement of the groove.

Wings long, and sharp-pointed; with the first and second quill-feathers of equal length, and the longest in the wing.

Legs long and slender, having the tibiæ naked for a considerable space above the tarsal joint. Feet four-toed; three before, and one behind; the outer toe being united to the middle one by a membrane as far as the first joint, and the inner one free. Hind toe short, articulated upon the tarsus, with the tip of the claw barely touching the ground.

In plumage, the head and neck of the male, during the amatory season, are adorned with long plumose feathers, springing from the occiput and throat; which, when raised, form a large ruff or shield around the head; and the face of the male bird, during the same period, is covered with small fleshy warts or papillæ.

In the systems of LINNÆUS and his immediate followers, the Ruff was included among the Tringas, a numerous genus, containing, besides the species still classed under that

head, several birds which have since become the types of new genera in the family of the *Scolopacidae*; as well as others, now more properly transferred to the *Rallidae* and *Charadriidae*. The distinguishing characteristics of this curious bird did not, however, escape the keen and observant eye of CUVIER; and, accordingly, in his valuable work the "Regne Animal," he has removed it from its former station, and made it the type of a new genus, which he has appropriately named *Machetes*, as expressive of the pugnacious disposition that so remarkably distinguishes the only species hitherto discovered. In its affinities it appears to connect the *Tringas* (particularly that group to which the Knot belongs) with the Sandpipers (*Totani*); the length of the tarsi, and structure of the feet, as well as its superior size, indicating a near approach to the latter group; while the dimensions and form of the bill assimilate it to the former. The habits and mode of life of the Ruff strongly resemble, in many respects, the other *scolopaceous* groups. It differs, however, from all the rest in that essential point of its economy, the propagation of the species; for, instead of being monogamous, as they are, and associated with the female in the various duties attendant upon the rearing of the young, &c., the males are polygamous, and their society is courted for a short time only by different females; a peculiarity which also distinguishes some of the *rasorial* Order, along with certain members of the *Anatidae*, in the Order *Natatores*. It is during this period only that the male birds are adorned with the singular feathers that spring from the hinder part of the head and the neck (from whence arises the English designation), as well as the papillæ upon the forehead and round the base of the bill.

RUFF.

MACHETES PUGNAX, Cuvier.

PLATE XXV. Figs. 1. 2. and 3.

- Machetes pugnax*, Cuv. Reg. Anim. 1. 490.—*Steph. Shaw's Zool.* 12. 110 pl. 16. fem.
- Tringa pugnax*, Temm. Man. d'Ornith. 2. 631.—*Flem. Br. Anim.* 1. 110. sp. 158.
- Fighting Ruff, *Shaw's Zool.* 12. 110. pl. 16.
- Summer plumage of both sexes. { *Tringa pugnax*, Linn. Syst. 1. 247. 1.—*Gmel. Syst.* 1. 669.—*Lath. Ind. Orn.* 2. 725. sp. 1.—*Raii Syn.* 107. A. 3.—*Will.* 224. t. 56.
Le Combattant ou Paon de Mer, *Buff. Ois.* 7. 581. pl. 29. and 37.
Bécasseau combattant, Temm. Man. d'Ornith. 2. 631.
Streitshandläufer, *Bechst. Naturg. Deut.* 4. 266.—*Meyer, Tasschenb.* 3. 377.
Ruff and Reeve, *Penn. Br. Zool.* 2. No. 172. pl. 69.—*Arct. Zool.* 2. 479. A.
—*Will. (Angl.)* 302. t. 56.—*Albin.* 1. t. 72. 73.—*Lath. Syn.* 5. p. 159. 1.
—*Mont. Ornith. Dict.* 2. Id. Sup.—*Bewick's Br. Birds*, 2. t. pl. 95.
- Young of the year. { *Tringa littorea*, Linn. Syst. 1. 251. 17.—*Lath. Ind. Orn.* 2. 731. sp. 15.
Totanus cinereus, *Briss.* 5. 203. 7. t. 17. f. 2.
Le Chevalier varié, *Buff. Ois.* 7. 517.
Shore Sandpiper, *Arct. Zool.* 2. 481. f.—*Lath. Syn.* 5. 171.
Tringa Grenovicensis, *Lath. Ind. Orn.* 2. 731. sp. 16.
Greenwich Sandpiper, *Lath. Syn. Sup.* p. 249.
- Young and Old after autumnal moult. { *Tringa equestris*, *Lath. Ind. Orn.* 2. 730. 14.
Le Chevalier commun, *Buff. Ois.* 7. 511.
Equestrian Sandpiper, *Lath. Syn. Sup.* 2. 311.
Yellow-legged Sandpiper, *Mont. Ornith. Dict.* 2. App.

Periodical
visitant.

THIS bird, so remarkable for its combative disposition, and the extraordinary plumage that distinguishes the male at a certain period of the year, is among the number of our summer visitants; arriving in the fenny districts of Lincolnshire, the Isle of Ely, and other marshy parts of England, in the month of April, and departing, on its equatorial migration, towards the end of September, or early in the following month. In its *polygamous* nature, this species differs from the rest of its congeners; such peculiarity producing, of course, the difference of habits that so remarkably distinguishes it during the season of reproduction; in this respect becoming assimilated to the polygamous species of other

orders. An analogy is thus maintained between individuals otherwise far removed from each other. Shortly after the arrival of the males in this country, and as soon as the feathers of the throat, which form the ruff, and the auricular tufts (also appendages peculiar to the season) become almost fully developed), they begin to *hill*, as it is termed; that is, to assemble in companies upon some dry hillock, or rising spot of ground amidst the marshes; each individual selecting there a particular stand or *walk* at a small distance from his neighbour; any attempt to encroach upon which is instantly resented, and the possession of it most obstinately defended. Here each bird keeps moving in his respective circle, awaiting the approach of any one of the other sex; whose appearance immediately throws the whole assemblage into excitement, and acts as the signal for a general fight, her favours being the prize of victory. Each morning, soon after daybreak, when the males return to their *hill* from the surrounding marshes, where they disperse and feed during the night, the same species of warfare takes place, and the theatre of these battles and amours soon becomes bare of grass from the constant traversing of the combatants. This scene continues during the month of May and great part of June, until their mutual fervour begins to abate; indicated in the male birds by the shedding of the ruff and auricular plumes, and the commencement of a general moult. The papillæ, or small fleshy tubercles, that cover the face and the region of the eyes during the height of the season (and which are ascertained, by experiments on birds kept in confinement, to be only consequent on sexual connexion) also disappear; and in a short time they become clothed in a plumage so unlike that of the early summer, as to be with difficulty recognised. With this difference of plumage, a change is also wrought in their disposition, as they no longer exhibit the extreme pugnacity that distinguished them during the time of *hilling*; and this fact is in accordance with the manners of the Pheasant, Black Grouse, and other polyga-

mous birds of the rasorial Order, all of which take up separate stations, and obstinately defend them during the season of excitement; but, after that period, again unite in society, and live amicably together. In fighting, the actions of the Ruff are not unlike those of the Common Cock; the head is lowered, and held in a horizontal direction, and the feathers of the neck, which form the shield, are distended outwards, so as to cover and protect the tender parts of the body; the auricular feathers are erect, and the tail is partly expanded. In this attitude the combatants stand opposed to each other, attempting to lay hold with their bills; and, if this is effected, by a leap the wings are then brought into offensive action. As might be expected from the nature of the weapons, their contests are not often attended by fatal consequences. This, however, sometimes does occur, as MONTAGU mentions an instance, in which the bird died from an injury in the throat, got in one of its feuds when in confinement; for even in this state they are easily excited, and a mess of food placed before three or four of them is sufficient to rouse the spirit of contention *. Nothing perhaps is more singular in the history of this bird than the diversity of plumage which individuals exhibit at that period of the year when they are subject to the feathery appendages of the head and neck; at this time it is scarcely possible to find two that are precisely alike in colour. In some, the frill is of a yellowish or chestnut hue, elegantly barred with black; in others, of a plain brown; some have it pure white; others white intermixed with black and chestnut; and others again entirely black, or black glossed with purple and steel-blue. The upper parts of the body and breast partake also at this time of the prevailing tints of the elongated neck-feathers; and the bill and legs vary from a pale yellow to black and other intermediate

Diversity
of plu-
mage.

* For a full and interesting account of the Ruff, the mode of taking them, &c. I must refer my readers to the Supplement to MONTAGU'S Ornithological Dictionary, art. *Ruff*.

shades, according to the intensity or want of colour in the ruff. During the remainder of the year, or when divested of these periodical appendages, they are more uniform in colour; though the birds that assume a black or white frill, may usually be distinguished by the comparative darkness or paleness of the head and neck. The females, generally called *Reeves*, are much inferior in size to the males,—another circumstance in which they differ from their congeners. They possess no elongated feathers, and the plumage of summer varies but little from that of autumn and winter; they live in the marshes, and resort (as I have before observed) to the hills of the male birds at stated periods. The place selected for nidification is commonly of the most swampy nature, abounding in tufts of tall grass and other marshy plants, and upon these the nest is formed, being a slight depression only, lined with coarse grass and herbage. The eggs, four in number, are in colour and markings very like those of the Common Snipe, but rather larger. The young are excluded in July, and by the end of August, or the beginning of September, are fully fledged; soon after which they congregate, and with the old females leave the kingdom upon their equatorial migration. The flesh of the Ruff is much esteemed, and these birds consequently bring a high price in the market; on which account, the trade of catching them is still pursued by fowlers in the fens of Lincolnshire, and other places where they abound. From MONTAGU (who made a tour through that county for the purpose of gaining information respecting this bird), it appears that they are taken at two different seasons, viz. in spring, when the old males are captured at the time of *hill-ing*; and in September, after the young are fledged, and immediately previous to their leaving the kingdom. They are all caught alive, by means of clap-nets, into which they are enticed by stuffed skins and other devices, and afterwards fattened for the table in confinement; it being a peculiar character of this bird to feel but little alarm, and even to

Nest, &c.

Food. feed greedily immediately after being taken. In the wild state, their food consists of worms, aquatic insects, and their larvæ; but in confinement they soon eat bread and milk, boiled wheat, and other farinaceous diet, with avidity, and upon which they shortly become very fat. In England, this species, from its habits, is very locally distributed; the fens of Lincolnshire and Cambridge being the chief resort; they are, however, found, though in inconsiderable numbers, in other places. A small flock annually frequents the marsh of Prestwick Car, near Newcastle-upon-Tyne; and this, as far as I have been able to trace, is the northern limit of residence in this country. In autumn I have indeed frequently met with small flocks on the coast, or in the marshes farther inland, but consisting of birds (viz. young males, with sometimes a few females intermixed) on their migration from the north of Europe towards their winter-quarters, and whose stay seldom exceeded a week or ten days. The geographical distribution of this species is confined to the old Continent, and its polar migration extends as far as Iceland, and the northern parts of Russia; but the limit of its equatorial movement has not been well ascertained.

PLATE 25. Fig. 1. represents a male in the summer plumage.

General
description.

Male bird.

Bill and legs pale ochre-yellow. Face naked, and covered with small yellow fleshy tubercles. From the hind part of the head, or auricles, arise two thick tufts of feathers, having tips curled backwards, of a yellowish-brown colour, barred with black, and glossed with purple. Ruff composed of elongated feathers, with strong shafts, springing from the throat, and under side of the neck, of a pale sienna-yellow colour, with zigzag black bars. Upper parts of the body a mixture of hair-brown, yellowish-brown, and black. Sides of the breast and flanks yellowish-brown, barred with black. Middle of the belly, abdomen, and under tail-coverts, white. Wings

hair-brown, having the coverts and scapulars barred and margined with reddish-white. Tail with the outer feathers of a uniform pale hair-brown, and the middle ones with darker bars.

Another specimen in my possession has the ruff and ear-tufts black, glossed with purple and green, and varied with yellowish-brown. The sides of the breast and flanks are also black, glossed with purple. The back darker, and more varied in colour than in Fig. 1.—A third has the ruff and breast entirely black, glossed with steel-blue; with the back still darker than in the last described specimen. But as the variety of colour is endless in different individuals, it is unnecessary to particularize more.

Fig. 2. is the female bird.

In size much less than the male, and always destitute of the ruff. In summer, the upper parts of the body, the neck, and breast, are varied, with black glossed with steel-blue, and cinereous or brownish-grey. In autumn, or the winter plumage, the cinereous brown prevails without any mixture of black feathers. Belly and abdomen white. Legs pale yellow, sometimes tinged with flesh-red.—The young of the year have the neck and breast deeply tinged with yellowish-brown.

Female.

Fig. 3. represents the young male killed in autumn.

In this state the cheeks and region of the eyes are of a pale reddish-white, tinged with grey. Throat white, tinged with reddish-brown. Sides of the neck and breast yellowish-orange, tinged with grey. Crown of the head black, the feathers being margined with reddish-brown. Belly and under tail-coverts greyish-white, tinged with buff. Back and scapulars brownish-black, glossed with purple, and the feathers deeply margined with pale orange-brown. Side coverts of the tail white. Two

Young
Male.

middle tail-feathers barred with greyish-black and buff; the outer ones uniform greyish-black; but with the tips of the whole pale buff. Legs and toes greenish-grey; with the knees thick, indicating a bird of the year. In this state it answers to the synonyms quoted as belonging to the young. The Yellow-legged Sandpiper of MONTAGU seems to refer to the winter plumage of the old Ruff.

GENUS TRINGA, *AUCTOR*. TRINGA.

GENERIC CHARACTERS.

BILL of the same length as, or longer than, the head, straight, or slightly arched, compressed at the base, the tip blunt, smooth, and dilated, semi-flexible throughout its length, and with both mandibles furrowed as far as the smooth bulb or tip.

Nostrils lateral, linear-oblong, placed near the base of the bill in the membrane that covers the groove.

Wings of mean length, acuminate, having the first quill-feather the longest.

Legs of mean length, slender, more or less naked above the tarsal joint. Feet four-toed, three before and one behind. The anterior ones divided, and fringed with a small lateral membrane. The hind toe small, articulated upon the tarsus, and barely touching the ground with its tip.

Plumage soft, close, and adpressed.

Under this generic title I include all the species contained in the first section of the genus *Tringa*, as described by MONS. TEMMINCK in his "Manuel d'Ornithologie," as well as some others given by different authors, which possess the essential characters of the group. This arrangement was induced to adopt for the present, from not being satisfied

that the characters upon which the Baron CUVIER has established his new genera *Calidris* and *Pelidna* in the "Regne Animal," are so distinct and well-marked as to warrant a generic division, being in fact only such slight modifications of form as might naturally be expected in birds standing at the extremes of the group to which they belong, and whose intimate connexion is shewn by the intervention of species intermediate in form, and leading gradually and almost imperceptibly from one to the other. The Tringas are a numerous tribe, chiefly inhabiting the marine marshes and shores, though some habitually frequent the margins of lakes and the rivers of the interior. They associate and live in flocks, and perform their periodical migrations in large bodies. Their moult is double, that is, the plumage is renewed twice in the year, and the summer (or, as it has been appropriately called, the nuptial) livery is very different from that in which they are clothed during the rest of the year. The principal variations of colour are from white to reddish-brown, and from grey to black. These frequent and peculiar changes, as in other genera of the *Scolopacidae*, have given rise to great confusion in the enumeration of species, the same bird having been described under three or four distinct names, according to the existing state of feather. This error has been strongly exemplified in the Knot (*Tringa Canutus*), and the Dunlin (*Tringa variabilis*); and the difficulty is farther increased by the appearance of the young birds, possessing, previous to the first moult, a very different plumage from that of the adults. The colour of feather in the sexes is nearly alike; but the females are distinguished by their superior size. Their food consists of insects, worms, small bivalve and other molluscous animals, obtained on the muddy shores of the ocean, and generally sought for at the recession of the tide, and upon the surface, as they are not accustomed to bore in the same degree as the true Snipes, their bills not being furnished with the delicate nervous apparatus that is so highly developed in those last mentioned.

By the Knot, which stands at one extremity of the group, the Tringas are allied to the genus *Machetes*, the bill of that bird being nearly straight, and resembling that of the Ruff. It also leads the way to the *Phalaropes*, the membrane which borders its toes being more dilated than in most of the other species. The direct passage to these last mentioned birds is probably better effected by the intervention of the *Tringa semipalmata* of WILSON'S North American Ornithology, in which, and in the *Tringa himantopus* of the Prince of Musignano, the toes are connected by a considerable membrane or web. These have been separated by that eminent naturalist from the genus *Tringa*, under the generic title of *Hemipalama*, and, by peculiar modifications of form in which birds, a union is effected with the genus *Numenius*, with which the present family commences. From the Knot to the *Tringa subarquata* (Pigmy Curlew), in which the bill appears to attain its utmost degree of curvature and length, the passage (by means of the *Tringa maritima*, *Tringa variabilis*, and other species) is easy and gradual.

KNOT.

TRINGA CANUTUS, Linn.

PLATE XXVII. Figs. 1, 2, & 3.

Summer
Plumage
of both
sexes.

Tringa canutus, *Flem. Br. Anim.* 1. 109. sp. 156.

Tringa cinerea, *Temm. Man. d'Ornith.* 2. 627.—*Sabine*, Linn. Trans. v. 12. 533.

Becasseau Canut, *Temm. ut supra.*

Calidris Islandica, *Steph. Shaw's Zool.* 12. 90. pl. 14.

Tringa Islandica, *Linn. Syst.* 1.—Addend. *Gmelin's Syst.* 1. 692.—*Lath. Ind. Orn.* 2. 737. sp. 39.

Tringa rufa, *Wils. Amer. Orn.* 7. 43. pl. 57. f. 5.

Aberdeen Sandpiper, *Penn. Br. Zoology*, 2. No. 203.

Red Sandpiper, *Lath. Syn.* 5. 186. 34.—*Lewin's Br. Birds*, 5. t. 177.—*Mont. Ornith. Dict.* 2.

- Tringa canutus*, Linn. Syst. 1. 251. 15.—Gmel. Syst. 1. 679.—Raii Syn. 103. A.—Briss. Orn. 5. 253. 21.—Lath. Ind. Orn. 2. 733. sp. 44.
Le Canut, Buff. Ois. 8. 142.
Knot, Br. Zool. 2. 193.—Will. (Angl.) 302.—Lath. Syn. 5. 187. sp. 36. } Winter Plumage.
Mont. Ornith. Dict. and Sup.
Tringa grisea, Gmel. Syst. 1. 681.—Lath. Ind. Orn. 2. 733. sp. 23.
Manbeche grisé, Buff. Ois. 7. 531.
Grisled Sandpiper, Lath. Syn. 5. 175. 20.
Tringa cinerea, Gmel. Syst. 1. 673.—Lath. Ind. Orn. 2. 733. sp. 25.— } Young of the year
Wils. Amer. Orn. 7. pl. 57. f. 2. previous to first moult.
Ash-coloured Sandpiper, Br. Zool. 2. No. 194.—Lath. Syn. 5. 177. 22.
—Mont. Ornith. Dict. and Sup.—*Lewin's Br. Birds*, 5. 171.—*Bewick's Br. Birds*, 2. 103.
Tringa calidris, Linn. Syst. 1. 252. 19.—Lath. Ind. Orn. 2. 372. sp. 21. } In the change from the
—Briss. 5. 226. 14. pl. 20. f. 1. Winter to the Summer Plumage.
La Maubeche, Buff. Ois. 7. 529. t. 31.
Dusky Sandpiper, Lath. Syn. 5. 174. 18.
Tringa naevia, Gmel. Syst. 1. 681.—Lath. Ind. Orn. 2. 732. sp. 22.
Maubeche tachetée, Buff. Ois. 7. 531.
Freckled Sandpiper, Arcet. Zool. 2. 480.—Lath. Syn. 5. 174. 19.
Tringa australis, Lath. Ind. Orn. 2. 737. sp. 40.
Southern Sandpiper, Lath. Syn. 5. 187. 35.—Id. Sup. 249.

THE Knot, which has been described by various writers under so many different specific titles, according to the period of plumage when the specimens were examined, is the largest of the group hitherto discovered, equalling the Reeve (or female of the Ruff) in the bulk and weight of body. Its legs, however, are much shorter in comparison, giving it a different appearance, and depriving it of the elegance of carriage which so much distinguishes the other bird. In Britain, it is known as a winter resident, great numbers arriving from the Polar Regions early in autumn, and spreading themselves along the shores, take up their residence in localities congenial with their habits, viz. bays, the mouths of rivers, and other flat parts of the coast, covered with ooze or soft sand, in which they find an abundance of the minute bivalve shell-fish that constitute their principal food. In such situations, collected in immense flocks, whose evolutions, when upon wing, are curious and interesting (not unlike those described by WILSON as characterizing the Long-beak (*Macroramphus grisea*), they reside till the latter part of April or the beginning of May, when they again depart to the Arctic Regions, for the purposes of incubation and of

Periodical
 visitant.

rearing their young. Previous to such departure, some of the earlier birds, or those that first feel the influence of the season, partly or totally acquire the nuptial livery—a plumage altogether unlike the winter dress, and in which state this species has been described as the Aberdeen or Red Sandpiper (*Tringa Islandica*). The polar migration of the Knot extends to very high latitudes, as it is enumerated by Captain SABINE and others in the list of birds inhabiting the icy shores of Greenland and Spitzbergen. It is also common to the continent of North America, and is described by WILSON under the title of the *Ash-coloured Sandpiper*, being the plumage of the young of the year (in which state it appears upon these coasts in September and October in its flight southwards), and again as the *Red-breasted Sandpiper*, on its return to Hudson's Bay and other breeding-stations in April and May. By LEWIN, and other subsequent compilers, Knots are described as visiting the fens of Lincolnshire, and being there taken in vast numbers by nets, in the same manner as the Ruff. This, however, is not the fact, as it is upon the sea-coast of that county they appear, and not in the fens of the interior. This plan of taking them has also been long abandoned, as MONTAGU mentions, in his Ornithological Dictionary, that the noted Ruff-feeders of that county assured him upwards of twenty years had elapsed at that time since any of these birds had been taken by means of nets. The flesh is tender, delicate, and well-flavoured, perhaps scarcely inferior to that of the Ruff. In former times, they were caught alive, kept for a certain time in confinement upon the same kind of food as the Ruff, and are said to have thriven equally well. On their arrival in autumn they are very tame, and admit of a near approach, as I have always found, upon the extensive sands between the mainland and Holy Island, subject to the alternate flowing and receding of the tide. During high-water, they retire in great numbers to a small island at the mouth of the harbour, where I have seen great slaughter made amongst them, the survivors

after each discharge merely making a short circuitous flight, and again alighting amidst their dead companions. They soon, however, grow more wary, and, during the winter months, it becomes very difficult to approach them, either at rest or when feeding on the sands, though in their various evolutions on the wing, they sometimes approach near enough to be within range of the fowling-piece. In this species, the bill approaches very closely in form to that of the Ruff, being nearly straight, and more dilated at the tip than in the other members; and the feet, in which the membrane covering the lower surface of the toes is rather strongly marked, indicate the passage from this genus to the *Phalaropes* and *Lobipedes*. Of the nidification, colour of the eggs, &c. we have no authentic information; and I cannot but suppose that the egg figured by LEWIN as that of the Knot, belonged to some other bird, which is rendered more likely by his adding, that the Knot arrives in the fens in spring, at the same time as the Ruff and Reeve—an assertion at variance both with the observations of other naturalists, and with the ascertained migratory movements of the species.

PLATE 27. FIG. 1. Represents the Old Bird in the winter plumage.

General
descrip-
tion.
Adult bird.
Winter
plumage.

In this state, the crown of the head, hind part of the neck, back, scapulars, and wing-coverts, are of a light brownish-grey, with the shafts of the feathers darker. The middle wing-coverts deeply margined and tipped with white. Throat white, with a few small hair-brown specks. Sides and lower part of the neck white, streaked with hair-brown. Belly, abdomen, and under tail-coverts, pure white. Breast, sides, and flanks, barred with hair-brown. Lower part of the back and upper tail-coverts white, with transverse bars of deep hair-brown. Tail grey, very finely margined with white. Quills deep hair-brown, with white shafts. Legs and feet blackish-grey.

FIG. 2. Is the young of the year (or *Tringa cinerea* of authors), killed in September.

Young of
the year.

At this age, the breast and belly are white, tinged with pale buff-yellow; the markings upon the former not so distinct or well defined as in the adult bird. Upper parts grey, each feather near the tip being surrounded with a double circle of black and yellowish-white. The quills are also lighter in colour; and the crown of the head more varied with streaks of hair-brown.

FIG. 3. The summer plumage is very dissimilar to the two foregoing.

Adult bird.
Summer
Plumage.

The throat, sides, and fore part of the neck, breast, and belly of a uniform orange-coloured brown. Crown of the head, nape, and hind part of the neck, orange-brown, streaked with black, and interspersed with specks of white. Back and scapulars black, barred and varied with orange-brown; the margins and tips of most of the feathers being white. Upper tail-coverts barred with black, white, and orange-brown. In this state it answers to the *Tringa Islandica* of LATHAM; and in its progress towards it, from the winter plumage, is successively the *Tringa calidris*, *navia*, and *australis*, of the same author.

BUFF-BREASTED TRINGA.

TRINGA RUFESCENS, Vieillot.

PLATE XXVII. FIG. 4.

Tringa rufescens, Vieill. Gall. des Ois. pl. 238.—Yarrell, in Trans. Linn. Soc. 16. 109. pl. 11.

Le Tringa roussâtre, Nouv. Dict. d'Hist. Nat. tom. pl. 470.

Rare visitant.

THIS elegant *Tringa*, now inserted in the list of the British Fauna as a rare visitant, was first described by Mr YARRELL in the 16th volume of the Transactions of the Linnean Society, as a species new to Europe, upon the authority of a specimen shot in the month of September 1826, in the pa-

rish of Melbourn in Cambridgeshire, being in company with some of the Common Dottrel (*Charadrius Morinellus*). This individual soon after passed into Mr YARRELL'S possession, and now enriches his valuable cabinet of British birds; and it is to the kind and liberal attention of this eminent naturalist, in offering me the free use of his collection, that I am enabled to give a correct delineation of this, as well as of other rare British birds. This is an American species, and inhabits Louisiana; but even on that continent it appears to be of rare occurrence, or very locally distributed, as it is not mentioned by WILSON in his delightful work, or in the continuation of the same by M. CHARLES BUONAPARTE, Prince of Musignano. The only specimen, indeed, hitherto described, or even noticed, appears to be that in the Parisian Museum, and which served VIEILLOT and others to identify it as a species. Of its habits I am unable to give any account; but, from the circumstance of its having been killed at a distance from the coast, it probably frequents the lakes and rivers of the interior of the American continent. In the length and form of its bill, as well as in dimensions and bulk of body, it approaches near to the species described in the "Illustrations of Ornithology" by Sir WILLIAM JARDINE, &c. under the specific title of *Tringa australis**, which is a native of the coasts of New Holland, and from whence the specimens were received. The Buff-breasted Tringa, independent of the prevailing tint of the lower part of its body (from which arises its trivial appellation), is easily recognised from all the other known species by the peculiar markings and speckled appearance of the under surface of the wings. The specimen in Mr YARRELL'S collection, from the plumage, and state of ossification of the tarsi, is supposed by him to be the young of the year; that at Paris appears to be an adult bird.

* The *Tringa australis* of LATHAM'S Index Ornithologicus has no reference to this bird, being merely a synonym of the Knot (*Tringa canutus*).

FIG. 4. Of the natural size.

General
description.

Chin, throat, front of the neck, and breast, pale ochreous, inclining to sienna, yellow. Sides of the neck and nape spotted with brown. Abdomen, flanks, and under tail-coverts, white, dashed with yellow. Front part of the under surface of the wings rufous brown, the other parts spotted; under coverts white. Shafts of the primary quills on their under surface pearl-white; outer web dusky; the inner one pale hair-brown, plain on the part next to the shaft, but having its other half elegantly mottled with dark specks. Secondary quills mottled at their base, and ending in distinct sabre-shaped points, presenting, as Mr YARRELL observes, a regular series of lines, formed by alternating shades of white, black, and dusky bands, well defined, and exhibiting a beautifully variegated appearance peculiar to the species. Back blackish-brown, with the margins of the feathers paler. Scapulars and tertials blackish-brown, margined with pale reddish-brown. Tail-coverts brown, with paler edges. Tail cuneiform, the centre feathers black, those on each side hair-brown, enclosed by a zone of black, and edged with white. Bill black. Legs brown, and bare for about half an inch above the tarsal joint.

TEMMINCK'S TRINGA.

TRINGA TEMMINCKII, Leisl.

PLATE XXVII. * FIGS. 1, 2.

Tringa Temminckii, Leisler, Nachr. zu Bechst. Naturg. Deut. Heft 1. 65.

—*Temm.* Man. d'Ornith. 2. 622.

Tringa pusilla, Lath. Ind. Orn. 2. 737. but not the *Tringa pusilla* of Linn.

—*Flem.* Br. Anim. 1. 108. sp. 154.

Pelidna pusilla, Steph. Shaw's Zool. 12. 101.

Pelidna Temminckii, Steph. Shaw's Zool. 12. 103.

Becasseau Temminnia, *Temm.* Man. d'Ornith. 2. 622.; ejusd. Pl. Col.

Little Sandpiper, *Mont.* Ornith. Diet. App.—*Lath.* Syn. 5. 184. 32.

Temminck's Dunlin, *Steph.* Shaw's Zool. 12. 101.

Temminck's Knot or Sandpiper, *Fox*, Syn. of Newcastle Mus. p. 14.

AFTER a careful examination of the descriptions by various authors, of the two small species of *Tringa* generally known under the specific titles of *Tringa pusilla* and *T. minuta*, the above list of synonyms appears to be strictly referable to the first-mentioned species, which is also known to many as the *T. Temminckii*, a name imposed by LEISLER, and adopted by M. TEMMINCK, in his excellent work the "Manuel d'Ornithologie," as well as in the "Planches Coloriées" of the same author. In adopting LEISLER's specific name for this bird, I agree with that naturalist and M. TEMMINCK in considering it as distinct from the *Tringa pusilla* of LINNÆUS, although LATHAM quotes that as synonymous with the *Little Sandpiper* of his Synopsis, which latter certainly appears to be the bird now under examination. Dr FLEMING, in his History of British Animals, also retains the title of *Pusilla* for this bird, stating, as his ground for which, that the character of the tail identifies it with the Linnean species. In this decision, I think he is not borne out by the terms used by LINNÆUS, which are, "rectricibus extimis scapo albo;" whereas, to suit the *T. Temminckii*, they ought to be "rectricibus extimis albis." The Linnean species is farther described as "corpore subtus rufescente;" that is, with the under parts of the body rufous or reddish—a character by no means applicable to the *T. Temminckii* at any period, or change of plumage, but which is so to another exotic species. The *Little Sandpiper* of the British Zoology, described as having the tail dusky, I have ventured to assign to the next species, as being more applicable to it; and the same with regard to the *Brown Sandpiper* of that work, which is distinctly stated as having the tail cinereous. The *Little Sandpiper* described in the Appendix to MONTAGU's Ornithological Dictionary is retained, as it agrees in every particular with the *Tringa Temminckii* of LEISLER, and of the "Manuel d'Ornithologie;" but the bird described under the same title in the Supplement to that work, I have transferred to the *Tringa minuta*, of which species it appears to be the young.

The *Pelidna pusilla* and *Pelidna Temminckii* of STEPHENS seem to be identical.

Occasional
visitant.

This delicate little species is known to us as an occasional visitant during the seasons of its migration, and several instances of its capture have been given of late years. Among others, two are mentioned in the second volume of the Zoological Journal, by that distinguished naturalist WILLIAM YARRELL, Esq., which were killed near Chichester in 1826; and I have in my possession a male and female killed in Norfolk in May 1830. In habits it resembles the rest of the tribe, but frequents more the interior lakes and rivers than the shores of the ocean. It feeds on insects, worms, and molluscous animals; and though it is supposed to retire for the purpose of reproduction to the higher latitudes of the north-eastern parts of Europe, the nest, colour of the eggs, &c. remain still unascertained. Upon the continent it is found in many parts of Germany, in its favourite localities, during the period of migration; but its stay is short, and it is never known to breed there. Similar as it is in size and general contour to the *Tringa minuta*, it may always be recognised from that species by the whiteness of the outer feathers, and the more perfectly wedge-shaped form of the tail, as well as by the tarsi of this bird being considerably shorter than those of *T. minuta*.

PLATE 27.* Fig. 1. Represents the adult bird, acquiring the summer plumage.

General
description.
Adult
bird.

Forehead white, speckled with pale hair-brown. Between the bill and eyes is a dusky streak, and over the eyes an indistinct whitish line. Chin and throat white, with a few minute brown specks. Crown, nape of the neck, and breast, ash-grey, spotted with hair-brown, and tinged with wood-brown. Back, scapulars, and wing-coverts hair-brown, tinged with olive; several black feathers with reddish margins being interspersed, indicating the commencement of the vernal change. Quills

deep hair-brown, glossed with olive-green. Tail cuneiform; the middle feathers deep hair-brown, and the outer ones on each side white. Belly, vent, and under tail-coverts white. Legs greenish-grey, with the tarsus about five-eighths of an inch long. Bill nearly the same length, black. In the perfect nuptial dress, the whole of the feathers of the upper parts are black in the centre, deeply margined with reddish-brown, and the middle tail-feathers also become edged with reddish-white.

Fig. 2. Is the young bird in its first or nestling plumage.

In this state of feather the forehead, throat, belly, vent, and under tail-coverts, are white. Over the eyes is a streak of white, with specks of ash-grey. The nape, sides of the neck, and breast, are ash-grey, tinged with pale wood-brown. Back, scapulars, and wing-coverts hair-brown, each feather being edged with a double zone of dark hair-brown and white, similar to the immature *Knot*. Quills and middle tail-feathers edged with white. Legs and bill paler than in the adult bird.

Young
bird.

MINUTE TRINGA.

TRINGA MINUTA, *Leisler*.

PLATE XXVII. * FIGS. 3. and 4.

- Tringa minuta*, *Leisler*, Nachtr. zu *Bechst.* Naturg. Deut. Heft 1. 74. art. 10.—*Flem.* Br. Anim. 1. 109. sp. 155.
Pelidna minuta, *Steph.* Shaw's Zool. 12. 105.
Tringa fusca? *Lath.* Ind. Orn. 2. 733. 26?
Becasseau échassées, *Temm.* Man. d'Ornith. 2. 624.
 Little Sandpiper, *Mont.* Ornith. Dict. Supp. Young.
 Little and Brown Sandpiper, *Penn.* Br. Zool. 2. 463. No. 195. and 473. No. 207.—*Lath.* Syn. Sup. 250.
 Minute Dunlin, *Steph.* Shaw's Zool. 12. 105.
 Little Stint, *Bewick's* Br. Birds, 122.—*Fox*, Newc. Mus. 114.

THIS appears to be the bird most commonly described by our writers as the Little Sandpiper (*Tringa pusilla* of LIN-

NEUS), though the same objections hold good with respect to its identity, which I have previously stated as prevailing in the case of *T. Temminckii*, with which species also I have no doubt it has been frequently confounded. In size it rather exceeds that bird; but its form and general appearance are so similar, as to render a narrow inspection absolutely necessary to ascertain the peculiar characters that distinguish the one from the other. The first essential difference observable is in the comparative length of the tarsus, being in *T. minuta* fully seven-eighths of an inch long, whilst in *T. Temminckii* it does not exceed five-eighths. The form of the tail also varies from that of the latter bird (which I have described as *wedge-shaped*), being *doubly forked*; that is, the two middle feathers and the outer one on each side are longer than the intermediate ones, thus giving to each half of the tail a forked appearance; added to which, its colour is dissimilar, the whole of the feathers being of an uniform pale hair-brown, with the exception of the central ones, which are deep lustrous hair-brown. The legs and feet also of the present species vary, by being of a darker colour. Like the *T. Temminckii* it can only be considered in the light of an occasional visitant, during its autumnal migrations. In addition to the instances recorded by MONTAGU, BEWICK, and others, Mr YARRELL, in the Zoological Journal, mentions four of these birds that were killed in 1826, and I have since met with other specimens, all killed in the southern parts of England, as it is very rarely met with in the northern districts of the island. According to TEMMINCK, it is not uncommon during its autumnal passage in the extensive marshes of Holland; and it is also frequently found on the margins of lakes and rivers in France and Germany. It is very common upon the lake of Geneva; and I have received specimens in almost perfect summer plumage from Italy, as well as others from India, which appear to be identical with the European kind. It feeds upon the smaller water-insects, worms, and mollusca. It has not yet

Occasional
visitant.

Food.

been ascertained where it retires to breed, but from its line of migration, the summer retreat will probably be found in the north-eastern parts of Europe, and in Northern Asia.

Fig. 3. Represents the adult bird in summer plumage.

Forehead, eye-streak, chin, throat, abdomen, vent, under and side coverts of the tail, pure white. Crown of the head blackish-brown, the feathers being margined with pale reddish-brown. Nape of the neck ash-grey. Breast-feathers spotted with hair-brown, and margined with yellowish-brown. Back, scapulars, and tertials deep hair-brown, the feathers being margined with reddish-brown and yellowish-white. Lesser coverts, near the ridge of the wings, plain hair-brown, the rest edged with reddish-brown and yellowish-white. Quills deep hair-brown, with white shafts. Tail doubly forked, the two middle feathers deep hair-brown, with reddish-white edges; the others pale hair-brown, faintly edged with white. Tarsus seven-eighths of an inch long. Legs and toes blackish-grey.

General
description.
Adult
bird.

Fig. 4. Is the young of this species;—in which state it very closely resembles the immature bird of the preceding one. The eye-streak is, however, more distinct, and the breast more inclined to pale yellowish-brown. The dark zone which encircles each feather in the upper parts of the body is also more defined and intense in colour, giving a spotted appearance. The comparative length of the tarsus, as in the adult, is of itself sufficient to distinguish it from *T. Temminckii*.

Young
bird.

PURPLE OR ROCK TRINGA.

TRINGA MARITIMA, Brun.

PLATE XXVI. FIG. 6.

- Tringa maritima*, Brun. No. 182.—Gmel. Syst. 1. 678.—Lath. Ind. Orn. 2. 731. sp. 18.—Markv. Cat. Birds in Trans. Linn. Soc. 4. 22. Tab. 1.
Tringa nigricans, Mont. in Linn. Trans. 4. 40. Tab. 2.
Tringa striata, Flem. Br. Anim. 1. 110. sp. 157., but not the *T. striata* of Lath. and Gmel., which refers to *Totanus calidris*.
Tringa canadensis, Lath. Ind. Orn. Sup. 65.—Steph. Shaw's Zool. 12. 122.
Totanus maritimus, Steph. Shaw's Zool. 12. 146.
Becasseau Violet, Temm. Man. d'Ornith. 2. 619.
Selninger Sandpiper, Lath. Syn. 5. 173. 15.—Arct. Zool. 2. 480.
Sea Sandpiper, Linn. Trans. 4. 22. Tab. 1.
Quebec Sandpiper, Lath. Syn. Sup. 2. 313.
Knot, Penn. Br. Zool. 2. 461. No. 193., but not the synonyms except that of Brunnick.—Bewick's Br. Birds, 2. 75.
Phayrelarn Sandpiper, Mont. in Trans. Linn. Soc. 4. 40. Tab. 2.
Purple Sandpiper, Wall. Syn. 2. 155.—Mont. Ornith. Dict. et Supp.—Flem. Br. Anim. 1. 110. sp. 157.—Steph. Shaw's Zool. 12. 146.

THE locality of this species being strictly confined to the rocky coasts of the ocean, and never found upon the flat and sandy shores (the usual resort of most of the maritime scolopaceous birds), has occasioned its falling less frequently under the notice of ornithologists, and its history has been consequently involved in much obscurity, and there is some difficulty in collating the synonyms under which it has been described by different authors. In the above list I have omitted the *Tringa striata* of LATHAM and GMELIN, quoted by MONTAGU and STEPHENS as a synonym of this species, as I consider it more appropriate, and rather belonging to *Totanus calidris* in its immature plumage, than to this bird. I have also rejected the *Black Sandpiper* of PENNANT (*Tringa Lincolniensis* of LATHAM), which bird MONTAGU thinks may be a variety of *T. maritima*; but, when described as having *long* and *slender* legs, I cannot reconcile it with the Purple Tringa, whose legs are *short*, the tarsus scarcely

equalling the length of the middle toe. In the fourth volume of the Linnean Transactions, a correct description of our bird is given by MONTAGU as a supposed nondescript species, under the title of the Phayrelarn Sandpiper (*Tringa nigricans*); but he afterwards corrected his mistake in the Ornithological Dictionary and the Supplement to it. It is also described in the above mentioned volume by Mr MARCHWICK, in his Catalogue of the Birds of Sussex, as the *Sea Sandpiper* (*Tringa maritima* of LATHAM). PENNANT, in his description of the Knot, appears to have mixed up this bird with the true Knot (*Tringa canutus*), in which confusion he was followed by BEWICK, whose excellent *figure* of the Knot, however, at once identifies it with the *Purple Sandpiper* of authors. STEPHENS has, in one instance, described it as a Tringa, under the title of *Tringa canadensis* (Quebec Sandpiper of LATHAM); and, in another place, as a Totanus, under the name of *Totanus maritimus*.

The Purple Tringa is a winter visitant to this country, generally arriving early in October, and departing for more northern latitudes in April. On the Northumbrian coast it is a common bird, and is met with in numerous flocks wherever the beach is bold and rocky. The Fern Islands, which are composed of trap (or basaltic) rocks, are a favourite resort, and it sometimes happens that a few stragglers are left at the period of the vernal migration, remaining through the summer, and breeding on the smaller islets. I have hitherto been unable to obtain the eggs, but have met with the young more than once in the month of June. When in flocks, these birds fly in a compact body, but seldom to any great distance; and, when disturbed, after taking a small circuit seaward, often return to the same exposed rock by the water's edge, from which they started. They feed on marine insects, such as onisci, small cancri, and on bivalve molluscæ, &c. which they seek for by turning aside the fronds of the ulvæ, and other maritime plants, that grow on the rocks. Their cry is feeble, and not unlike the word *weet, weet*, fre-

Periodical
visitant.

Food.

quently repeated. In spring, they sometimes associate with the Turnstones (*Streptilas interpres*), which affect the same localities. The flesh of this Tringa, from the nature of the food, is strong and somewhat rank, much inferior to that of the Knot, Purre, &c. The species is rather widely disseminated throughout Europe during its equatorial migration, being found upon the rocky shores of the Baltic and Mediterranean, as well as upon those of Holland and the British Islands. There is no difference between the American and our own; there it inhabits Hudson's Bay, and the other northern coasts of that continent.

FIG. 6. Represents this bird in the winter plumage.

General
description.

Winter
plumage.

Head and neck greyish-black, tinged with broccoli-brown. Orbits of the eyes, eye-streak, and chin, greyish-white. Breast deep ash-grey, inclining to hair-brown, many of the feathers having a darker centre, and being finely margined with white. Abdomen, flanks, and under tail-coverts white, spotted and streaked with deep ash and hair brown. Back and scapulars greyish-black, glossed with purple, and each feather margined with ash-grey. Wing-coverts greyish-black, margined and tipped with white, the tips of the greater ones forming a bar across the wings. Secondary quills, nearest to the tertials, almost wholly white, the rest having white tips only. Lower back and upper tail-coverts black, glossed with purple. Tail cuneiform, the middle feathers greyish-black; the outer ones ash-grey, margined with white. Bill, in adult specimens, one inch and a quarter long, very slightly deflected at the tip; the base reddish-orange, the tip dusky. Legs and toes ochreous-yellow, having the tibiae feathered to within a short distance of the tarsal joint; and the lateral membrane (or web) of the toes not quite so large as in the Knot.

In the summer, the head becomes darker, and the feathers Summer plumage. margined with greyish-white. The back and scapulars also acquire a greater intensity, and the purple gloss shines with greater brilliancy; the ash-grey edging of the feathers also changes to white, and the spots upon the breast and flanks acquire a more distinct lanceolated form.

In the young, or nestling plumage, the head, back, and Young. scapulars are of a dull greyish-black, the feathers being margined with dirty yellowish-brown. The sides of the neck and breast are ash-grey, with darker streaks. Flanks and under tail-coverts with large longitudinal streaks of deep ash-grey. Base of the bill ochre-yellow.

DUNLIN, OR PURRE.

TRINGA VARIABILIS, Meyer.

PLATE XXVI. Figs. 1. 2. 3.

Tringa variabilis, Meyer, Tasschenb. Deut. 2. 397. — Temm. Man. d'Ornith. 2. 612.

Pelidna variabilis, Steph. Shaw's Zool. 12. 98. pl. 15. in summer plumage.

Tringa alpina, Flem. Br. Anim. 1. 108. sp. 153. — Sabine, Trans. Linn. Soc. 12. 534.

Becasseau Brunette ou variable, Temm. Man. 2. 612.

L'Alouette de Mer à Collier, Cuv. Reg. Anim. 1. 490.

Dunlin, Flem. Br. Anim. 1. 108. sp. 153. — Mont. Ornith. Dict. App. to Sup.

Purre Dunlin, Steph. Shaw's Zool. 12. 98. pl. 15.

Tringa Cinclus, Linn. Syst. 1. 251. 18. — Gmel. Syst. 1. 680. — Lath. Ind. Orn. 2. 735. sp. 35. — Raii, Syn. 100. A. 13.

Cinclus, Briss. Orn. 5. 211. pl. 19. f. 1.

L'Alouette de Mer, Buff. Ois. 7. 548.

Purre or Stint, Will. (Angl.) 305. — Penn. Br. Zool. 2. 472. — No. 206. — Id. Arct. Zool. 2. 475. — Lath. Syn. 5. 182. — Mont. Orn. Dict. 5. — Bewick's Br. Birds, 2. 119. — Wils. Amer. Orn. 7. 39. pl. 59. f. 3. — Wall. Syn. 2. pl. 150.

} Winter plumage.

Tringa ruficollis, Pall. Reis. 3. 700. 31. — Lath. Orn. 736. sp. 36.

Red-necked Sandpiper, Lath. Syn. 5. 183. 31. This appears to be young when it has nearly perfected the winter plumage.

Summer
plumage,
and
changes in
acquiring
and losing
it.

- Tringa alpina*, Linn. Syst. 1. 249. 11.—*Geml. Syst.* 1. 676.—*Lath. Ind.*
Orn. 2. 736. sp. 37.
Cinclus torquatus, Briss. *Orn.* 5. 216. No. 11. t. 19. f. 2.
Gallinago anglicana, Id. 5. 309. 5.
Le Cincle, Buff. *Ois.* 7. 553.
La Brunette, Id. 7. 493.
 Red-backed Sandpiper, *Wils. Amer. Orn.* 7. 25. pl. 56. f. 2.
 Dunlin, *Will. Orn. (Angl.)* 305.—*Raii Syn.* 109. A. 11.—*Penn. Br.*
Zool. 2. 471. No. 205.—*Arct. Zool.* 2. No. 391.—*Lath. Syn.* 5. 185. 33.
Id. Sup. 249.—*Mont. Ornith. Dict.* 1. Sup. and App. to Sup.—*Bewick's*
Br. Birds, 2. 117. &c.

PROVINCIAL—Sea-snipe, Ox-bird, Oxeye, Wagtail, Least Snipe.

PREVIOUS to the appearance of MONTAGU'S Supplement to his Ornithological Dictionary (when the identity of the Dunlin and Purre of authors was first pointed out), this bird, in the writings and compilations of earlier naturalists, had always been considered, under its different states of plumage, as forming at least two distinct species, as may be collected from the list of synonyms given above. These views of our zealous countryman, who was one of the first to direct the attention of inquirers to the remarkable changes of plumage that so many species are now ascertained to undergo, were soon afterwards corroborated by the observations of that discriminating ornithologist Mons. TEMMINCK, in his "Manuel," where he has traced and attached the various synonyms, as they appeared applicable to the different states of this bird, either at the period when the change has been completely effected (as exhibited in its winter or summer plumage), or in the intermediate stages of moulting, in its progress from one to the other. After the authority of two such names, it may appear unnecessary to bring forward any additional proof of this identity; but as the situation in which I happen to reside is peculiarly favourable for making observations on the tribes of fowl that resort to our coasts, I may be allowed to remark, that after having examined specimens at all seasons, and indeed during each month of the year (when the progressive changes from one state to another may be traced step by step), I have been able to verify, most satisfactorily to my own mind, the cor-

rectness of that opinion by which these supposed different species have been pronounced identical, under peculiar modifications of plumage. The *Dunlin*, or (as it is called in its winter dress) the *Purre*, is a very well known and numerous species, frequenting in immense flocks the sandy bays and oozy shores of the whole line of our coast. In the southern parts of Britain it is a winter visitant, and consequently oftenest observed in its plain, or ash-grey plumage; and it is only in spring, immediately previous to its departure for more northern latitudes, or early in autumn, on its first return, that a few are seen clothed in the garb proper to the *Dunlin* of earlier authors. In Scotland and its islands, this bird may be considered *indigenous*, as great numbers are known to breed not only upon the sea coast, but in the marshes of the interior. A few also remain in Northumberland, which may be called the southern limit of the permanent residence of the species. It is not to be supposed, however, that the multitudes that people our northern shores are the offspring of such only as breed in this latitude; they are principally composed of migrants from countries farther northward, to which the great body retires during summer, as offering peculiar facilities for the reproduction of the species, but which, upon the approach of frost, and when food begins to fail, send forth their now increased flocks southward, in search of warmer winter quarters, where a more plentiful supply of nourishment may await them.—Like many of its congeners, the flight of this species is attended with such regular evolutions, as no one who has enjoyed the opportunity of visiting the parts of our coast frequented by *Purres*, and other scolopaceous birds, can have failed to remark. I allude to the glancing and simultaneous exposure of the upper or under surface of the body by every individual of a flock (be it ever so numerous), as it sweeps along the surface of the ocean, or across the shining sands. In Scotland, the *Purre* breeds upon the shingle at the mouths of rivers, or on the salt marshes near the coast, as well as in

Periodical
visitant.

Nest, &c. the bogs of the upland country.—The nest, merely a depression in the ground, lined with a few straws or dried stems of grass, and, in appearance, similar to that of the Snipe or Ring Dotterel. The eggs, as in the rest of the family, are four in number, of an oil or greenish-grey colour, marked all over with variously sized spots of hair-brown, and are rather less than those of the Common Sandpiper (*Totanus hypoleucos*).

Food. This species feeds on worms, insects, molluscæ, and the smaller crustaceæ, which it usually obtains by probing the sand in following the ebb of the tides. It runs with great celerity, and has a sprightly carriage and delicate form. When in action, it is in the constant habit of moving the tail up and down. Its cry, on wing, is a weak scream, but when at rest on the ground, or feeding, a softer and more pleasing note is used. Its flesh, during the autumn, is tender and well flavoured, but in winter it becomes darker in colour and fishy, and is always indeed inferior to that of the Knot.

General
description.
Winter
plumage.

Fig. 1. Represents this bird in the perfect winter plumage. Crown of the head, hind part of the neck, back and scapulars ash-grey, with a tinge of hair-brown; the shaft of each feather being darker. Between the bill and eyes is an indistinct line of brown. Eye-streak and cheeks white, streaked with pale hair-brown. Chin and throat white. Lower part of neck and breast grey, the shafts of the feathers being hair-brown. Belly, abdomen, vent, and under tail-coverts pure white. Wing-coverts hair-brown, margined with pale ash-grey, the larger ones having white tips. Rump and upper-tail-coverts deep hair-brown, margined paler. Tail approaching to the doubly-forked shape, the two middle feathers being the longest, and of a deep hair-brown colour, the rest, on each side, grey, with white shafts. Bill black, very slightly inclined at the tip. Legs and toes blackish-grey.

Fig. 2. The same species in the summer or nuptial plumage. Summer plumage.

Crown of the head black, the feathers being margined with reddish-brown. Chin white. Cheeks, fore part of the neck and breast, black, with the feathers deeply margined with white, giving these parts a beautifully spotted appearance. Belly and abdomen black. Flanks and side-coverts of the tail white, streaked with black. Hind part of the neck, mantle, and scapulars black, each feather being deeply margined with clear reddish-brown. Lower part of back, and upper tail-coverts brownish-black. Wing-coverts as in the winter plumage.—This description taken from a specimen killed towards the end of May.

Fig. 3. Is the young of the year, in a state of change from the nestling to the winter plumage. Young bird.

Head blackish-brown, the feathers being edged with yellowish-brown. Upper parts exhibiting a mixture of the pale grey feathers that mark the winter plumage, with the darker (or nestling) feathers. Cheeks and sides of the neck pale brown mixed with grey. Breast grey, spotted with black. Belly white, with large black spots. Vent and under tail-coverts white.

CURLEW TRINGA.

TRINGA SUBARQUATA, Temm.

PLATE XXVI. Figs. 4. 5.

Tringa subarquata, Temm. Man. d'Ornith. 2. 609.—Flem. Br. Anim. 1. 107. sp. 152.

Becasseau Cocorli, Temm. ut supra.

Pelidna subarquata, Steph. Shaw's Zool. 12. 96.

L'Alouette de Mer ordinaire, Cuv. Reg. Anim. 1. 490.

Red Dunlin, Steph. Shaw's Zool. 12. 96.

Pigmy Sandpiper, Bewick's Br. Birds. 2. Sup. p. and t. 11.

Pigmy Curlew, Mont. Orn. Dict. Sup. the young of the year.

Winter plumage.	{	Numenius Africanus, <i>Lath. Ind. Orn.</i> 2. 712. sp. 10.
	{	Scolopax Africana, <i>Gmel. Syst.</i> 1. 655.
	{	L'Alouette de Mer, <i>Buff. Ois. Enl.</i> 851.
	{	Cape Curlew, <i>Lath. Syn.</i> 5. 126. 9.
Summer plumage.	{	Scolopax subarquata, <i>Gmel. Syst.</i> 1. 658. sp. 25.
	{	Numenius subarquata, <i>Bechst. Naturg. Deut.</i> 4. 135. No. 3. t. 6.
	{	Rauthbauchiger Brachvogel, <i>Meyer, Tasschenb. Deut.</i> 2. 356.
	{	Red Sandpiper, <i>Penn. Arct. Zool.</i> 2. 476. No. 392.— <i>Lath. Syn.</i> 5. 186.
	{	34. ?
	{	Rockmillis, <i>Will. Orn. (Angl.)</i> p. 304. ?

THIS species, in its winter dress, may easily be mistaken by a cursory observer for *Tringa variabilis*, to which it bears a close resemblance in colour and dimensions, particularly as regards the male, which is always much less than the female bird, and the bill of which is frequently found very little longer than in adult specimens of the Dunlin. The greater curvature, however, of this member, the comparative length of the tarsi, and larger naked portion of the tibiæ, as well as the colour of the upper tail-coverts, are always sufficiently characteristic to point out the difference between the two species whenever a proper comparative examination can take place. In its summer plumage, such a mistake can scarcely occur, as the difference then must be obvious, even to those unacquainted with the subject. In collating the synonyms of this species, I have omitted the *Numenius pygmaeus* of LATHAM, as I concur with MONS. TEMMINCK and MR VIGORS in considering it to refer to the *Tringa platyryncha* of TEMM., rather than to the present species. The Cape Curlew (*Numenius Africanus*), however, appears to be strictly referable to it; and specimens that I have received from Africa are in every respect similar to those killed in Europe.—This bird is a rare visitant in Britain, and only seen during its vernal or autumnal migration. Upon the continental shores of Europe, and on the margins of the larger lakes, it is not uncommon; and, according to TEMMINCK, it occasionally breeds in Holland by the sides of the extensive inland seas that occupy so large a portion of that country.—Its four eggs are stated to be yellowish (*jaunâtres*), probably answering to SYME's oil-green, spotted with

Rare visitant.

Eggs.

brown, the prevailing colour, indeed, of the eggs of most of the Scolopaciæ. Its geographical distribution is very extensive, as the species appears to be the same in all the four quarters of the globe. In addition to the specimens hitherto recorded, a male and female were killed a short time ago near Hartlepool, in the county of Durham; and two, in the collection of Sir WILLIAM JARDINE, were shot upon the coast in Dumfriesshire. It runs with great quickness, and feeds upon insects, worms, &c. for which it probes the sand by the water's edge. Food.

Fig. 4. Represents this bird when beginning to lose the summer plumage, taken from a specimen killed on the Norfolk coast, in company with several others which had nearly acquired the winter garb, and presented to me by H. GIRDLESTONE, Esq. of Yarmouth.

General
description.
Summer
plumage.

Bill black and deflected near the tip, its length one inch and three-eighths. Crown of the head blackish-brown, margined with pale reddish-brown. Hind part of the neck reddish-brown, streaked with hair-brown. Back and scapulars black, deeply bordered with reddish-brown, the tips of the feathers fading into yellowish-grey, and much worn by the action of the weather, &c. Wing-coverts pale hair-brown, margined with greyish-white. Quills hair-brown, with white shafts. Upper tail-coverts white, barred with black. Forehead, eye-streak, chin, and throat white, mixed with pale orange-brown. Under parts orange-brown, with a few white feathers intermixed; shewing the commencement of the winter plumage. Under tail-coverts white, with arrow-shaped black spots. Legs black, much longer than those of the *Dunlin*, and naked for half an inch above the tarsal joint. Wings, when closed, reaching a little beyond the tail.

Fig. 5. Is a young bird of the year, acquiring the winter plumage.

Young. Eye-streak, face, and fore part of the neck, white. Crown of the head blackish-brown, bordered with greyish-white. Hind part of neck greyish-white, with streaks of a deeper tint; upper parts hair-brown, with a glossy reflection, the feathers being margined with white and reddish-white. Upon the back are several ash-grey feathers, indicative of the approaching change. Upper tail-coverts white. Lower part of neck and breast yellowish-grey. Belly, abdomen, and under tail-coverts white. Tail grey margined with white.

Winter
plumage.

In the perfect winter dress, the whole of the upper parts, with the exception of the tail-coverts, become of an uniform pale hair-brown, with a slight olivaceous gloss, the shafts of the feathers remaining dark. Lower part of the neck and breast grey, streaked with hair-brown.

GENUS PHALAROPUS, *BRISS.* PHALAROPE.

GENERIC CHARACTERS.

Bill rather longer than the head, somewhat three-cornered at the base, and depressed throughout its whole length; both mandibles laterally grooved, the tip of the upper mandible dilated, its extremity slightly deflected, and covering that of the under one, which is brought to a fine point; culmen rounded. Tongue short, with a blunt tip.

Nostrils basal, lateral, oblong, rather prominent, and surrounded by a membrane. Legs of mean length, slender, slightly compressed, naked above the tarsal joint. Feet four-toed, three before and one behind; the front toes joined at the base by a membrane, and from thence to the claws, bordered with large scalloped membranes. Hind toe small, with the tip of its claw scarcely reaching to the ground.

In plumage, having the under parts of the body clothed with thickly set feathers, and very closely adpressed.

THE genus *Phalaropus* of BRISSON contained not only the species to which it is now restricted, but also the Cootfoots, or birds belonging to the genus *Lobipes* of CUVIER, represented by the *Phalaropus Hyperboreus* of authors, and which that eminent naturalist judged it expedient to separate from the present group, in consequence of the distinct character it displayed in the form of the bill. By LATHAM, TEMMINCK, and other systematists, these birds were placed in an order entitled *Pinnatipedes*, an arrangement completely artificial, and which embraced groups widely different, and so far removed from each other in point of affinity, as to possess, in fact, nothing in common except feet imperfectly webbed or lobated. According to the natural arrangement, or that grounded upon affinity, they are now more appropriately classed with the *Scolopacidae*, and the groups which stand at the extremity of that family, or which, departing from the central (or more typical) genera, in regard to their habits (that are more aquatic), and in the lobated form of their feet (that are not unlike those of the Coots), lead the way and serve as a link to connect it with the succeeding family of the *Rallidae*. In the Phalaropes, the formation of the bill is nearly the same as that of the Knot, but it is more depressed throughout its length, and the tip comes to a sharper and more determinate point. The general contour of the body is also similar to that of the Tringas. The extensive development of the membrane connecting and bordering the margins of the toes, as well as the thick and closely set plumage of the under parts of the body, indicate more aquatic habits, and a greater power of being supported on the water; and we accordingly find, that the Phalaropes are more frequently seen upon the surface of the ocean, where they float at ease even amidst the roughest waves, than on the land, where their motions are more confined, and display less of the activity that distinguishes the Tringas and other birds that frequent the shores. Their moult is double, and the changes they undergo are not unlike those of the Tringas.

They are natives of the Arctic regions, and extend to very high northern latitudes. Their food consists of marine insects, mollusca, and worms, which abound in the waters they frequent, and are seized by them when swimming, as they float near the surface.

GREY PHALAROPE.

PHALAROPUS LOBATUS, *Flem.*

PLATE XXVIII.

- Phalaropus platyrhynchus, *Temm.* Man. d'Ornith. 2. 712.—*Sabine*, *Linn.* Trans. 12. 536.
 Phalaropus griseus, *Steph.* Shaw's Zool. 12. 163. pl. 20.
 Phalaropus lobatus, *Lath.* Ind. Ornith. 2. 776. 2.
- Winter plumage. { *Tringa lobata*, *Linn.* 1. 249. 8.—*Gmel.* Syst. 1. 674.
 Phalaropus, *Briss.* 6. 12. 1.
 Le Phalarope à festons dentelés, *Buff.* Ois. 8. 226.
 Le Phalarope gris, *Cuv.* Reg. Anim. 1. 492.
 Grey Coot-footed *Tringa*, *Edward*, t. 308.
 Grey Phalarope, *Br.* Zool. 2. No. 218. t. 76.—*Arct. Zool.* 2. No. 412.—
 Mont. Ornith. Dict. and Sup. Appendix.
 Grey Phalarope, *Lath.* Syn. 272.—the young commencing the autumnal
 moult
- Summer plumage. { *Tringa fulvicaria*, *Linn.* Syst. 1. 249. 10.—*Brun.* Orn. Boreal. 51. No. 172.
 Phalaropus rufescens, *Briss.* Ornith. 6. 20. 4.
 Le Phalarope rouge, *Buff.* Ois. 8. 225.—*Cuv.* Reg. Anim. 1. 492.
 Red Coot-footed *Tringa*, *Edward*, t. 142.
 Red Phalarope, female, *Lath.* Syn. 5. 271.
 Rothbauchiger Wassertreter, *Meyer*, Tasschenb. Deut. 2. 419. sp. 2.
- Adult in change. { *Phalaropus glacialis*, *Lath.* Ind. Ornith. 2. 776. sp. 3.
 Tringa glacialis, *Gmel.* Syst. 1. 675.
 Plain Phalarope, *Arct. Zool.* 2. 415.—*Lath.* Syn. 5. 173. 3.

Rare
visitant.

Our acquaintance with this species is only as a rare visitant, a few stragglers being accidentally driven upon our coasts, during their autumnal migrations. These birds are inhabitants of the north-eastern parts of Europe, and Northern Asia, where they are numerous upon the large lakes and rivers of Siberia: they also abound in North America; but their range, even during the equatorial migrations, does not

seem to extend far beyond the limits of the arctic circle. In summer, during the breeding season, they retire to very high latitudes, and are amongst the few kinds met with by navigators in those icy and desolate regions. In their habits they are much more aquatic than the *Tringas*, &c. passing the greater part of their lives on the water, and swimming with great buoyancy and ease; upon this element also they obtain their food, consisting of marine insects and worms Food. that live in the water, and move near the surface; for it does not appear that these birds are enabled to dive, never having been observed to exercise that faculty, either when feeding, or in their endeavours to escape from any threatened danger. In addition to their lobated feet, they possess other peculiarities indicative of aquatic habits; for we find the tarsus slightly flattened (so as to offer less resistance to the water, when drawn forwards to make the stroke in swimming), and the plumage of the lower parts of the body rendered, by its thick and close-set character, more impervious to the water, similar to that of the *Laridæ* and *Anatidæ*. They fly with great strength and swiftness, and, when on wing, are not easily distinguished from the *Tringas*. The nidification and colour of the eggs of this species have not yet been described.

PLATE 28. represents the Phalarope, as killed in autumn, when it has nearly acquired the winter or grey plumage; and again in that which it assumes as spring advances, and called the summer, or nuptial dress.

In the former state, the forehead, crown of the head, throat, fore part and sides of the neck, breast, and the whole of the under parts are white. Hind part of the head, ear-coverts, and streak down the nape of the neck, greyish-black. Upper parts of the body fine bluish-grey, intermixed with a few feathers of a greyish-black, margined with pale yellowish-brown and white; these being the remains of the summer plumage. Wing

General
descrip-
tion.
Winter
plumage.

coverts greyish-black, edged with white; the secondary coverts having their tips white, and forming a bar across the wings. Tertiaries black, with the outer web margined with white. Quills greyish-black, with white shafts. Tail grey, finely margined with white. Bill blackish-brown. Legs and toes greenish-grey, with the tarsus somewhat flattened. In this state of plumage it appears to be the *Phalaropus glacialis* of LATHAM, (*Plain Phalarope* of PENNANT'S Arctic Zoology). The specimen, as above described, was killed at the Fern Islands in the autumn of 1820.

Summer
plumage.

In summer, the sides and fore part of the neck, the breast and under parts, are of an uniform orange-brown. The streak above the eye sienna-yellow. Crown of the head, nape of the neck, back, and scapulars of a very deep olive-brown; each feather being margined with pale reddish-brown and yellowish-brown. Wing coverts as in the winter plumage.

GENUS LOBIPES. LOBEFOOT.

GENERIC CHARACTERS.

Bill longer than the head, strait, smooth, slightly depressed at the base; the point subulate, and rather inclined; mandibles grooved. Tongue slender and pointed. Nostrils basal, lateral, linear, placed in the commencement of the mandibular furrow, and surrounded by a prominent membranous rim.

Wings long, and sharp-pointed; with the first quill longest, and the rest decreasing by regular gradation.

In the legs, the lower part of the tibiae is naked; the tarsus slender, and much compressed; feet four-toed, three before and one behind. The middle toe connected with the inner one as far as the first, and with the outer ones as far

as the second joint; the remaining part of the toes having lobated membranes, with finely pectinated edges; nails, scarcely extending beyond the ends of the toes, small, falcated, and sharp-pointed.

Plumage similar in texture to the genus *Phalaropus*.

The different characters exhibited in the form of the bill between the *Phalaropus hyperboreus* of authors, and the *Phalaropus lobatus*, induced CUVIER, in his "Regne Animal," to separate the *former* from the latter, and to make it the type of a genus, which he entitled *Lobipes*. In this arrangement he has been followed by most of the ornithologists of the present day, and the propriety of it is further evinced by the discovery of several new species, possessing all the distinct characters of the type. In the Grey Phalarope the form of the bill is described as approaching to that of the Knot; in the Lobefoots it is similar to that of the Sandpipers, being slender, very little depressed, and acuminate at the point. In the Lobefoots, the tongue is long, slender, and sharp-pointed; whereas in the Phalaropes, it is short, and blunt at the tip: the legs also of the former are considerably longer in proportion to the size of the body. Their habits, as might be expected from the form of the feet, and, from their general resemblance, are very similar to those of the Phalaropes, and they swim with equal strength and ease. They are the inhabitants of sea coasts, as well as of inland fresh-water lakes and rivers, and are widely distributed, being found in countries differing, to extremes, in temperature. The *Lobipes hyperborea*, which sometimes visits our shores, inhabits the arctic regions of Europe and North America; the *Lobipes incana* is a native of South America; and another has been found in Africa. Like the Phalaropes, and other scolopaceous birds, their moult is double, and the plumage of summer is more varied, and of brighter tints, than their winter clothing. The feathers of the under parts of the body are, in texture, like those of the

Phalaropes, and equally well adapted to resist the effects of the element in which they chiefly move. They breed upon the margins of lakes, and, like the other birds of this family, lay four eggs. Aquatic insects, molluscæ, &c. compose their food, which they generally obtain on or very near the surface of the water.

RED LOBEFOOT.

LOBIPES HYPERBOREA, Cuvier.

PLATE XXVIII. FIGS. 1. 2.

Lobipes hyperborea, Steph. Shaw's Zool. 12. 169. pl. 21.—Flem. Br. Anim. 1. 100. sp. 134.

Le Lobipédé à hauss col, Cuv. Reg. Anim. 1. 495.

Phalaropus hyperboreus, Lath. Ind. Ornith. 2. 775. 1.—Temm. Man. d'Ornith. 2. 709.—Sabine, Linn. Trans. 12. 535.—Sabine, in Frank. Jour. Append. 690.

Tringa hyperborea, Linn. Syst. 1. 249. 9.—Gmel. Syst. 1. 675. sp. 9.

Phalaropus cinereus, Briss. Ornith. 6. 15. 2.

Phalarope cendré ou *Phalarope de Sibérie*, Buff. Ois. 8. 224.

Rothhalsiger Wassertreter, Bechst. Naturg. Deut. 5. 373.—Meyer, Tassenb. Deut. 2. 417.

Cock Coot-footed *Tringa*, Edward, Glean. pl. 148.

Red *Phalarope*, Br. Zool. 2. 219. t. 76.—Lath. Syn. 5. 270. 1.—Mont. Ornith. Dict. and Sup. Append.—Bewick's Br. Birds, 2. 109.—Will. Amer. Ornith. 9. 75.

Phalaropus Williamsii, Simmonds, in Linn. Trans. 8. 264.

Phalaropus fuscus, Lath. Ind. Ornith. 2. 776. sp. 4.—Briss. Ornith. 6. 18. 3.

Tringa fusca, Gmel. Syst. 1. 675.

Gemeine Wassertreter, Bechst. Naturg. Deut. 2. 217.

Coot-footed *Tringa*, Edward, pl. 46.

Brown *Phalarope*, Penn. Arct. Zool. 2. 414.—Lath. Syn. 5. 274. 4.

Young in
winter plu-
mage.

PROVINCIAL—Water Snipe.

IN the Orkneys, and the other northern Scottish islands, the Red Lobe-foot is a common species, inhabiting, during the summer, the numerous small fresh-water lakes, upon the margins of which it breeds and rears its young. In these places it goes under the name of the *Water Snipe*, from its aquatic habits, for it is more frequently seen swimming or floating upon the surface of the water, than running or reposing on the

shore; and in the former element also its food is obtained, consisting of water insects, vermes, and molluscous animals*. Food. In England, we only know this bird as a rare visitant during the period of its migration, and but few instances of its capture are on record. It is, however, plentiful in the north-eastern parts of Europe, and in Northern Asia, as well as in North America, where its polar migration, as in the two first mentioned quarters of the globe, extends to a very high latitude. Its nest is made in the grass, and other herbage not far removed from the edge of the water, and its four eggs are of a deep oil-green colour, thickly spotted with black. On the approach of autumn, and after the young have attained sufficient strength, these birds leave their breeding stations in the Orkneys, and the higher northern regions, and migrate, for the winter season, to the shores of the Baltic, and other eastern parts of Europe.

Rare visitant in England.

Nest, &c.

PLATE 28*. Fig. 1. represents it in the summer plumage.

Crown of the head, nape and hinder part of the neck, sides of the breast, and streak behind the eyes, ash-grey. Sides of the neck marked with an irregular patch of orange-brown. Throat, middle of the breast, and all the under parts white; except the flanks, which are dashed with ash-grey. Back and scapulars black; the feathers being deeply margined with ash-grey and reddish-brown. Wing coverts blackish-grey; the greater ones terminated with white, and forming a bar across the wings. The two middle tail-feathers black; the rest deep ash-grey, margined with white. Bill black; legs and toes greenish-grey; the lobes upon the anterior joint of the toes extending a little beyond the tip of the

General description.

Summer plumage.

* According to Mr BULLOCK, who had frequent opportunities of observing this bird, during an excursion to the Scottish Isles, it swims with the greatest ease, looking on the water like the beautiful miniature of a duck, and carrying its head close to the back, similar to the Teal. He also found it very tame, and so little alarmed by the report of a fowling-piece, as to permit him to fire repeatedly, without its moving from the spot.

claw. Iris brown.—The above is the male bird. The plumage of the female is similar to that of the male, with the exception of the tints not being so pure, and the red patch on the sides of the neck not so intense in hue*.

Fig. 2. is the winter plumage; from a bird killed near Alnmouth in Northumberland.

Winter
plumage.

Forehead white, tinged with cinereous. Crown of the head, streak behind the eyes, and the list down to the back of the neck, blackish-grey. Chin, throat, middle of the belly, abdomen, and under tail-coverts, white, with a slight pinkish tinge. Sides of the neck and breast grey, with a faint blush of purplish-red. Back, scapulars, and wing-coverts black; the feathers of the former being deeply edged with yellowish-brown; and the greater coverts having their tips white, forming a distinct bar across the wings. Middle feathers of the tail black, margined with yellowish-brown; the rest ash-grey, margined with white. Legs and toes greenish-grey. In the above state it approaches very closely to the description of the young of this species, as given by TEMMINCK; and also to the *Phalaropus fuscus* of LATHAM. It would, therefore, seem, that the plumage of the young of the year, and that of the adults in winter, bear a strong resemblance.

* The description of the female, as given in MONT. Ornith. Dict. from Dr LATHAM's authority, applies to the *Phalarope*, and not to the species of Lobe-foot.

FAMILY IV.—RALLIDÆ.

FROM the typical family of the *Scolopacidæ* we now enter upon that of the *Rallidæ*, which forms the fourth natural division of the Order, standing as an aberrant group. The various members composing it, and which answer to the *Macroductyles* of CUVIER, are distinguished from the birds of the preceding family, by having the bill considerably stronger, the tarsi shorter, and the hind toe of greater length. They are also separated from all the other families of the order, and more united together, by the particular shape of the body, which, in the typical or representative species, is *much* compressed on the sides, arising from the structure of the breast-bone, it being found, on dissection, remarkably narrow. In their habits they are more decidedly aquatic than the other families, and the greater part of them inhabit the interior lakes and marshes of their respective countries; many of them swim habitually and with facility, in this respect shewing their connexion with the true *Natatores*; to which order, by means of the *Coot*, they directly lead the way. The feet of most of the species are divided and without webs, but the toes and claws of many of them are long, and cover a large disk when expanded; which formation (as well as the shape of the body), not only aids them in swimming, but is of great assistance to them in traversing the surface of the water, when covered with aquatic plants and grasses. In *Gallinula*, whose habits are decidedly aquatic, the toes are bordered along their sides with a narrow web, being an extension, as it were, of the membranous sole of the foot; and the same is observable, perhaps to a greater degree, in the nearly allied genus *Porphyrio*. This, in the genus *Fulica* (placed still nearer to the farther extremity of the family, and serving as a link between it and the *Charadriadæ*, and the Order *Natatores*), become still more ex-

tended, and assumes the form of large scalloped lobes; a structure that induced former systematists, in their artificial arrangement, to establish a separate order for its reception, and that of some other birds, to appearance not intimately connected, as the *Phalaropes* and *Grebes*; the first of which belong to the *Scolopacidae*, the other to the Order *Natatores*, and included in the Family of the *Colymbidae*. In Britain, the members belonging to this family are few; consequently many links of the chain that connect the various groups with each other are wanting. The plumage of most of the *Rallidae* is soft, and loose in texture; their wings, with few exceptions, are short and rounded, generally armed with one or more spurs near the first flexure of the wing (more or less developed in the different genera), and they fly in a heavy and awkward manner; many of them, indeed, shewing a great unwillingness to take flight. They feed on aquatic herbs, grasses, and their seeds, as well as worms, insects, and molluscæ. They generally make a large nest, and lay several eggs; in which character they resemble not only the gallinaceous birds of the rasorial order, but also the *Anatidae* of the Order *Natatores*.

GENUS RALLUS, Auct. RAIL.

GENERIC CHARACTERS.

Bill longer than the head, rather slender, compressed at the base, with the tip cylindrical and slightly incurved; upper mandible sulcated for two-thirds of its length, the under one strait, and the angle very small.

Nostrils pierced in a membrane, and situated in the furrow of the bill at a short distance from the base; linear and pervious.

Tongue narrow, compressed, having a fibrous tip.

Wings short, with the first quill feather much shorter than

the second and third, which are the longest in the wing. The bastard wing armed with a spine or spur.

Forehead plumed; the shaft of each feather ending in a sharp horny point.

Tail short, consisting of twelve feathers.

Legs of mean length, with the tibiæ naked for a short space above the tarsal joint. Feet four-toed, three before and one behind; toes long, slender, and cleft to their base, the middle one generally as long as the tarsus. Hind toe as long as the first joint of the middle one, and touching the ground. Nails falcate, compressed, and sharp-pointed. Front of the tarsus and upper part of the toes scutellated.

The members of the genus *Rallus*, which may be considered the typical (or representative) form in the family, have the body remarkably compressed, arising from the structure of the breast-bone, which is very narrow. Their wings are short and rounded; their flight awkward and irregular, and only by sudden surprise, or close pursuit, can they be compelled to take wing. This partial deficiency, however, is amply compensated by the swiftness with which they can pierce through the thickest growth of reeds, or other aquatic herbage of the situations they chiefly frequent; and their progress through which is doubtless much facilitated by the laterally-compressed form of body they possess, being thus enabled to squeeze through the narrowest interval. They also swim with ease, and though not so often seen in the exercise of this faculty as the nearly allied genus *Gallinula*, they shew no unwillingness to pass by this mode the brooks, or many pools of water, in the marshes they inhabit. They live on worms, aquatic insects, and shelly molluscæ, with a proportion also of vegetables and seeds. They closely approach, in many respects, to the genera *Crex* and *Gallinula*, the passage to which is effected by certain species that stand at the extremity of the group, and which have the bill rather shortened and thicker than that of the Common Rail.

COMMON RAIL.

RALLUS AQUATICUS, Linn.

PLATE XXIX.

- Rallus aquaticus*, *Linn. Syst.* 1. 262. sp. 2.—*Genl. Syst.* 1. 712.—*Raii*, *Syn.* 113. A. 2.—*Ibid.* 190. 12.—*Will.* 234. t. 16.—*Lath. Ind. Orn.* 2. 755. 1. but not the var. B.—*Steph.* *Shaw's Zool.* 12. 192. pl. 25.—*Flem. Br. Anim.* 1. 98. sp. 128.
- Gallina serica* *Gesneri*, *Raii Syn.* 114. 4.
- La Rale d'Eau*, *Buff. Ois.* 3. 154. t. 13.—*Temm. Man. d'Ornith.* 2. 683.
- La Rale d'Eau d'Europe*, *Cuv. Reg. Anim.* 1. 500.
- Wasser Ralle*, *Bechst. Naturg. Deut.* 4. 464.—*Meyer*, *Taschenb. Deut.* 2. 406.
- Velvet Runner*, *Will. (Angl.)* 315.
- Water Rail*, *Bilcock*, or *Brook Ouzel*,—*Will. (Angl.)* 314.—*Penn. Br. Zool.* 2. 484. No. 214. t. 75.—*Albin's Br. Birds*, 1. pl. 77.—*Lath. Syn.* 5. 227. 1.—*Lewin's Br. Birds*, 5. t. 189.—*Pull. Cat. Dorset.* p. 15.—*Mont. Orn. Dict.* 1. and Sup.—*Bewick's Br. Birds*, 2. t. p. 13.—*Shaw's Zool.* 12. 192. pl. 25.—*Flem. Br. Anim.* 1. 98. sp. 128.
- Bilcock*, *Rennie's Mont. Ornith. Dict.* p. 33.

PROVINCIAL—Runner, Skiddy-cock, Oar-cock, Grey-skit, Brook-runner.

THE shy and solitary habits of this bird, as well as the peculiar localities it inhabits, and the difficulty with which it is forced on wing, prevent it being so frequently seen as, from its general dispersion throughout the kingdom, might otherwise be expected. It is permanently resident in this country, and to be found at all seasons of the year. *MONTAGU*, however, (in the Supplement to his Ornithological Dictionary,) suggests that a part of those annually produced may probably migrate, and, in favour of this opinion, instances the great accumulation of Rails in the marshes of Devonshire in the autumn, being the period when, in this case, they would naturally leave England for a warmer climate. This supposition I have not been able to verify, and further observations are therefore necessary to convert it into a fact. In the northern continental parts of Europe, this is a regularly migrative species, but in those countries the winter being always much more severe than it is in England, the

peculiar haunts of this and other members of the *Rallidæ* are in consequence more completely frozen up, and the supplies of food more effectually cut off than they ever are in our island. The haunts of the Rail are marshes, pools, and water-courses, particularly such as are covered or bordered with dense aquatic herbage and reeds, in which it finds shelter and refuge, being enabled, by the narrow form of its head and body, to pass through the closest beds of these plants with great rapidity. To the above property is owing its principal security, as, when forced upon wing, its flight is awkward and slow, with the legs hanging down, and offering an easy aim to the sportsman. Few dogs are able to force it into view, unless when taken by surprise, or before it has time to gain its retreat, which I have not unfrequently found to be the forsaken hole of a water-rat, or amidst the entangled roots of a stunted willow or alder-bush. When moving about undisturbed, or in search of food, it often flirts up its tail, similar to the Water-Hen, exposing the cream-white under-coverts of that part. It occasionally swims, or (as WILLOUGHBY expressively terms it) walks in the water, traversing the pools, or crossing the brooks, upon whose margins it resides. When disturbed, it will occasionally run along the surface of the water, supported by the floating herbage, for which purpose its feet are well adapted, covering, upon expansion, a large disk. It can also dive with readiness, to which method of escape it sometimes resorts, as I have experienced in several instances.—Worms, slugs, and insects, Food. are its food, to which may be added the leaves and seeds of particular aquatic plants. One of these birds which I kept for some time, was fed entirely with earth-worms, upon which it continued to thrive, till an accident put an end to its life. It refused bread, and the larger kinds of grain.—In consequence of the retired spots chosen for nidification (being always amidst the thickest herbage of its haunts), the nest Nest, &c. is rarely found. MONTAGU mentions having discovered one in a willow-bed, which was composed of sedge and coarse

grass, and contained six eggs of an immaculate white; like those of its congeners, rounded at both ends. TEMMINCK and BECHSTEIN, however, make the number of eggs to be ten or twelve; and their colour a yellowish-white, spotted with reddish-brown, a description which also answers to those of the *Crex Porzana*. This discordance, I regret, it is not in my power to settle, never having been fortunate enough to meet with the nest of the Rail. The geographical distribution of this species appears to be confined to Europe, and perhaps the northern parts of Asia; permanent in the warm districts, but migratory as it approaches the north. It is very abundant throughout Holland, France, and Germany.

PLATE 29. Represents this bird of the natural size.

General
description.

Bill reddish-orange at the base, passing into blackish-brown towards the tip. Irides red. Chin pearl-grey. Cheeks, sides of the neck, breast, and belly, bluish-grey. Abdomen and flanks greyish-black, barred with white and cream-yellow. Under tail-coverts cream-yellow. Crown of the head, nape and back part of the neck, and all the upper parts of the body, yellowish-brown, with the centers of the feathers velvet-black. A few of the lesser wing-coverts barred with black and white. Legs and toes yellowish-brown, tinged with flesh-red. Both sexes are of similar plumage.

GENUS CREX, BECHST. CRAKE.

GENERIC CHARACTERS.

Bill shorter than the head, thick at the base, subcultrated, compressed; the culmen gradually deflecting from the forehead to the point of the bill; lateral furrow of the upper mandible broad, and occupying more than half its length; angle of the under mandible bending upwards; both mandibles of an equal length.

Nostrils concave, lateral, linear-ovoid, pierced in a membrane occupying the mandibular furrow in the middle of the bill.

Wings armed with a spine, and having the second and third quill feathers the longest.

Plumage soft, thick, and open in texture.

Legs strong, of mean length, with the lower part of the tibiæ naked. Feet four-toed, three before and one behind. Toes long, slender, and cleft to their base, without any lateral membrane, hind toe resting almost wholly on the ground. Claws arcuate, compressed, and sharp-pointed.

The Crakes hold an intermediate station between the Rails on the one hand, and the Gallinules on the other, from the first of which they are distinguished by a shorter, thicker, and more angular bill, and from the latter in wanting the extension of the lateral membrane that borders the soles of the toes, as well as the naked callous skin (or plate) that occupies the forehead. By LINNÆUS, they were included in his genus *Rallus*, but LATHAM afterwards, under his system, transferred them to the genus *Gallinula*, in which he has been followed by TEMMINCK, who places them in his first sectional division of that genus. BECHSTEIN, however, and other ornithologists of the present day, have separated them from both genera, constituting a new one for their reception, and to which they are fairly entitled, from the distinctive characters they display. Their habits are similar, in many respects, to the above mentioned birds, being of a shy and solitary disposition, living concealed in the thick herbage of meadows or marshy districts. They have the same thin and compressed shape of body, and they run with a skulking gait, and with great quickness, seldom taking wing unless suddenly surprised, or when forced to it by persevering pursuit, of course, with the exception of the times of their annual migrations.—They feed on worms and insects, as well as vegetables and seeds.—Their flight is awkward and heavy, and

they hang their legs when only on wing for a short distance. All the British species are migratory, and come under the designation of summer visitants. The plumage of both sexes is nearly alike, differing only in the colours of the male bird being purer and brighter in tint. The young, however, are very different, and do not acquire the matured plumage till they undergo the second general moulting.

MEADOW OR CORN CRAKE.

CREX PRATENSIS, *Bechst.*

PLATE XXX *.

- Crex pratensis*, *Bechst.* *Naturg. Deut.* 4. 470.
Ortygometra Crex, *Steph.* *Shaw's Zool.* 12. 218. pl. 26.—*Flem. Br. Anim.* 1. 98. sp. 129.
Ballus Crex, *Linn.* *Syst.* 1. 261. 1.—*Gmel.* *Syst.* 1. 711.
Gallinula Crex, *Lath.* *Ind. Orn.* 2. 766. sp. 1.—*Temm.* *Man. d'Ornith.* 2. 686.
Porphyrio rufescens, *Bris.* 5. 533. 5.—*Will.* 236.
Rale de Genet, ou Roi des Cailles, *Buff.* *Ois.* 8. 146. t. 12.—*Id.* *Pl. Enl.* 750.
Poule d'Eau de Genet, *Temm.* *Man. d'Ornith.* 2. 686.
Wiesenknaurer, *Bechst.* 4. 470.—*Meyer*, *Taschenb.* *Deut.* 1. t. Heft 10.
Land-Hen, Daker-Hen, or Rail, *Will.* (*Angl.*) 170. t. 29.
Crake Gallinule, *Penn.* *Br. Zool.* 2. 484. No. 216. pl. 75.—*Lath.* *Syn.* 5. 250.
 1.—*Mont.* *Ornith. Dict.* 1. *Bewick's Br. Birds.* 1. 311.
Corn-crake, *Steph.* *Shaw's Zool.* 12. 218. pl. 26.—*Flem. Br. Anim.* 1. 98. sp. 129.

PROVINCIAL.—Land-rail, Crek, Bean-crake, Corn-cracker, Corn-drake.

SOME writers have attempted to separate the Meadow-Crake from the other species, and to make it the type of a genus; not, it would appear, from any essential difference in its characters (which, on the contrary, and particularly with respect to anatomical structure, agree with the others), but from a fancied difference in its habits, which are considered not so much approaching to aquatic as those of any of its congeners. This modification will, however, be found much slighter in reality than they who would thus separate the species are willing to allow, being in fact confined to a trifling difference in the quality and dampness of the soils these

birds respectively frequent; the Meadow Crake (and, indeed some other species), affecting rich meadows, occasionally inundated by running streams; the others, the rougher growth of marshy grounds or stagnant waters. In all other particulars their manners are very similar, being of an equally shy and timorous nature, depending for safety more upon the concealment afforded by the long herbage in which they habitually reside, and upon swiftness of foot, than on their power of flight, as they are with difficulty roused to the latter expedient.—This species is a summer visitant to us, arriving in the southern and midland parts of the island in the end of April, but seldom observed in the north before the beginning of May. The first indication of its presence is given by its peculiar and well known cry of *crek, crek*, frequently repeated in a rough broken kind of note, not unlike the sound produced by drawing a stick along the teeth of a strong comb, and by which imitation the bird may frequently be enticed within a very short distance. This is the note of the male, and is continued until a mate be found and incubation commenced, after which it ceases. Its favourite resorts are rich meadow grounds, near to rivers, lakes, &c. particularly such as are subject to occasional inundation. Upon the banks of the Trent below Newark, the meadows (which are of this description) are annually visited by great numbers of Crakes; and I have, in the course of an hour, killed eight or ten in a single field. They are very plentiful throughout Wales, the north of England, and Scotland, in all such low situations as afford meadows and cultivated land in the immediate vicinity of water. In the Highlands of Scotland, and the Hebrides, they also abound, and their migration extends to the Orkney and *Shetland* Isles. PENNANT remarks, that on first arriving in Anglesea they are very lean; but, in the midland and northern districts of England, I have generally found them in high condition, and, I think, as fat as they usually are previous to their departure in autumn. This may perhaps be accounted for on the supposi-

Periodical
visitant.

tion (which the observations I have made corroborate), that the Welsh and Irish shores are the first upon which these birds land, as being in the direct line of their polar migration from Northern Africa and the southern parts of Europe, and that, from the extent of their journey, they arrive exhausted and reduced, but are recruited by a short residence, or during the time spent in a gradual passage to their different places of resort. The Crake runs very swiftly, threading through the closest grass with extraordinary ease, and, unless sorely pressed, or from a failure of cover, is very unwilling to seek safety in flight. To succeed in *flushing* it requires the aid of a dog trained to the sport, and taught either to follow the *Trail* with great quickness, or to make a rapid circuit and get in advance of the bird. It flies low, and in a heavy wavering manner, with the feet hanging down, and seldom to any distance at a time. It breeds in meadows, or in the rough herbage of moist thickets, and sometimes in

Nest, &c. standing corn, if near to water. The nest is composed of grass and other dried plants, a slight hole being first made in the ground, and the eggs, in number from ten to fourteen, are of a yellowish-white, slightly tinged with pink, and spotted irregularly with reddish-brown, in size nearly equal to those of the partridge, but of a more oblong shape. The young, when excluded, quit the nest, and are then covered with a black hairy down, which gives place by degrees to the usual plumage, and in less than six weeks they are able to fly. When uttering its cry, the neck of the Crake is stretched perpendicularly upwards, and the note is varied, seeming to a listener to come from different distances, and producing thus an effect similar to ventriloquism.—It feeds on worms, slugs, and insects, with vegetables and seeds. I have kept this bird in confinement in apparent good health, on a diet of earth-worms, and bread steeped in milk. In this species a few of the frontal feathers possess the hard and horny tip that distinguishes the Rails; but this is not found in the others of the genus.

PLATE 30 *. Represent a male and female of the natural size.

Bill brown. Eyes yellowish-brown. Over the eyes, and down the sides of the neck is a streak of ash-grey. Chin and throat yellowish-white, tinged with ash-grey. Breast pale yellowish-brown, tinged with ash-grey. Belly reddish-white. Flanks and under tail-coverts pale reddish-brown, barred with reddish-white. Crown of the head and upper parts of the body deep liver-brown, each feather having a broad margin of pale-yellowish-brown, slightly tinged with oil-green. Wing-coverts pale orange-coloured brown. Quills hair-brown, tinged with reddish-brown. Legs yellowish-brown, with a tinge of grey.

General description.

SPOTTED CRAKE.

CREX PORZANA, Bechst.

PLATE XXX. FIGS. 1. and 2.

Rallus Porzana, Linn. Syst. 1. 262. 3.—*Gmel* Syst. 1. 712.
Gallinula Porzana, Lath. Ind. Orn. 2. 772. sp. 19.—*Temm.* Man. d'Ornith. 2. 688.—*Flem.* Br. Anim. 1. 99. sp. 131.
Ortygometra Porzana, Steph. Shaw's Zool. 12. 223.
Rallus aquaticus minor, sive *Maruetta*, Briss. Orn. 5. 155. pl. 13. f. 1.
Gallinula ochra Gesneri, Raii Syn. 115.—*Will.* (Angl.) 316.
Poule d'Eau ou la Maronette, Buff. Ois. 8. 157.—*Id.* pl. Enl. 751.
Poule d'Eau Maronette, Temm. Man. d'Ornith. 2. 688.
Punktierter Rhorhuhn, Bechst. Naturg. Deut. 4. 478.—*Meyer*, Tasschenb. Deut. 2. 412.
Spotted gallinule, Penn. Br. Zool. 2. 486. No. 215.—*Arct.* Zool. Sup. 69.
—*Lath.* Syn. 5. 264. 18.—*Wall.* Syn. 2. pl. 172.—*Mont.* Ornith. Dict. 1. and Supp.—*Flem.* Br. Anim. 1. 99. sp. 131.
Water Crake, Bewick's Br. Birds, 2. t. p. 10.
Spotted Crake, Steph. Shaw's Zool. 12. 223.
Skitty, Rennie's ed. of Mont. p. 462.

PROVINCIAL—Spotted Rail, Spotted Water-Rail, Spotted Water-Hen.

THIS prettily marked small species of Crake (being about one-third less than the preceding one) is one of our earliest birds of passage in arrival, and among the latest in taking its departure, as MONTAGU mentions having met with it in

Periodical visitant.

Devonshire on the 14th of March, and having seen it in autumn as late as the 23d of October. Though not numerous, these birds are rather generally disseminated throughout England, in such localities as accord with their habits; and I have also found them in various parts of Scotland, although MONTAGU states, that, in his time, the species had not been observed farther to the northward than Cumberland. Their haunts are the margins of pools and rivulets, overgrown with reeds, sedges, and other thick herbage, as well as more extensive marshy grounds; and, as in habits strongly resembling their nearly allied congeners, they are rarely seen unless expressly sought after. By the aid of a dog accustomed to pursue these birds, I have (in the autumn, just previous to their departure) sometimes *flushed* as many as six in a large morass in my neighbourhood, the majority of which were generally young birds of the year. The flight of the Spotted Crake is similar to that of the others, and of the Rail,—from the latter of which, owing to its darkness of colour, it is difficult to be distinguished when on wing.

Nest, &c. —Its nest is built amongst the thick sedges and reeds of the marshes, and from the foundation of it being frequently placed in water, is composed of a large mass of decayed aquatic plants interlaced, with the hollow neatly formed and comfortably lined. The eggs are eight or ten, of a yellowish-grey colour, with a tinge of pink, and with round spots of umber-brown of various sizes, and with others of a lighter shade, appearing to be (as it were) beneath the exterior shell. In magnitude the eggs equal those of a Missel Thrush.—It

Food. feeds on worms, aquatic insects, slugs, seeds, &c.; and its flesh, like that of the Meadow Crake, is sweet and well-flavoured. In autumn it becomes loaded with fat, a layer of nearly a quarter of an inch in thickness covering the whole surface of its body. The species is widely distributed through Europe, particularly in the southern and eastern parts, and is also found in Northern Asia.

PLATE 30. Figs. 1. and 2. The male and female in summer.

Bill red at the base, the other part lemon-yellow. Fore-head, eye-streaks, chin, and throat, deep smoke-grey. Crown of the head deep brown, the feathers being margined with yellowish-brown, and speckled with white. Sides of the neck, breast, and under parts pale oil-green, tinged with grey; with transverse bars and spots of white, surrounded by a narrow list of black. Mantle, shoulders, and scapulars black, the feathers being deeply edged with oil-green, and marbled with white, surrounded by a narrow list of black. Wing-coverts oil-green, tinged with yellowish-brown, and with white spots, surrounded by a line of black. Lower part of back, and upper tail-coverts black, edged with white and pale oil-green. Under tail-coverts yellowish-white. Quills hair-brown, tinged with oil-green, with the outer web of the first quill-feather white. Legs wax-yellow.

General
descrip-
tion.

The young have the upper parts of a deeper oil-green, and the white more dispersed in the form of small spots. Eyebrows deep grey, with numerous white specks. Cheeks, chin, and throat greyish-white, with a few darker specks. Lower part of the neck and the breast oil-green, tinged with grey, and with small spots of white. Belly and abdomen greyish-white. Quills deep hair-brown. Legs deep oil-green, tinged with grey. Bill dirty saffron-yellow at the base, the tip brown.

Young
bird.

BAILLON'S CRAKE.

CREX BAILLONII, J. & S.

PLATE XXX. FIG. 3.

Crex Baillonii, *Jardine and Selby's Illus. of Orn.* part 1. pl. 15.
Gallinula Baillonii, *Temm. Man. d'Ornith.* 2. 692.
Ortygometra Baillonii, *Shaw's Zool.* 12. 228. pl. 27.
Gallinula Foljambei? *Mont. Ornith. Dict. App. to Supp.*?
Poule d'Eau Baillon, *Temm. Man.* 2. 692.
Olivaceous Gallinule? *Mont. Ornith. Dict. App. to Supp.*?
Baillon's Crake, *Jardine and Selby's Illus. of Orn.* 1. pl. 15.—*Shaw's Zool.*
 12. 228. pl. 27.

AFTER an attentive perusal of MONTAGU's description of the *Olivaceous Gallinule*, given in the Appendix to the Supplement of his Ornithological Dictionary, and comparing it with TEMMINCK's account of *Gallinula Baillonii*, as well as with several specimens of that bird, I feel considerable doubt whether it can properly be referred to that species; and I have therefore retained TEMMINCK's specific appellation, instead of that of *Foljambei*, to which (if they were really identical) the bird now under consideration would, by priority of imposition, be entitled. With respect to size, and to the comparative length of the wings (as far as can be judged from MONTAGU's figure) they nearly agree, but in other particulars the *Foljambe* bird differs considerably from *Crex Baillonii*. The upper parts of the body are described as totally free from any white spots or markings, of which I never yet found any mature specimens of *C. Baillonii* entirely destitute; and the bird thus described having been killed in the month of May, there remains no doubt of its being an adult. It might, however, be suggested, that this is merely a sexual difference, being the summer livery of the female, but such an idea is directly contradicted by TEMMINCK's statement, that the females do not differ from the males; and I may add, that the various specimens of both sexes that have come under my notice, always possessed the characteristic white markings on the upper parts of the body. The

legs are also described as of an olive colour; whereas those of *C. Baillonii* are flesh-coloured, and the bill orange-red at the base, a particular unnoticed by TEMMINCK in his account of the latter species, but which nearly agree with the colour of those parts in *Crex pusilla*. MONTAGU's bird is evidently nearly allied to *C. Baillonii*; but as, in ornithology, *specific* differences are sometimes found to exist in features of as little apparent consequence as those just mentioned, it is not improbable but that future investigation will prove the *Gallinula Foljambei* of MONTAGU to be a distinct species from either the *C. Baillonii* or *C. pusilla*. For the present, however, I have inserted it as a doubtful synonym of the former of these.—This Crake, like the others of the genus, is an inhabitant of swamps, and the reedy margins of lakes or smaller pools; in such retirement its peculiar shyness of disposition screens it from observation, unless, when suddenly surprised, it is compelled to make a momentary use of its pinions. At other times, when aware of the approach of danger, it evades its enemy by the rapidity of its progress through the entangled aquatic herbage; or by the ease with which, from the compressed and wedge-shaped form of its body, it can pierce through the interstices of the thickest bed of reeds. It is also said to swim and dive well, and sometimes to elude pursuit by submerging its body, and keeping its bill only above the surface of the water, as the Rail and Common Gallinule frequently do.—In Britain it is only known as a rare visitant; and the few specimens which have occurred have all been taken in the eastern parts of England; nor have I hitherto met with any instance of its capture in the north. Upon the opposite continental coast, in nearly the same parallel of latitude, it is not uncommon, being well known in the neighbourhood of Boulogne, where it annually breeds in the marshes. It is also spread over the other districts of France during its polar migration; but is much more numerous in Italy, and the eastern parts of Europe.—Its nest is usually placed near to the water's edge, or

Rare visitant.

Nest, &c.

fastened to the reeds, and is formed of decayed sedge and aquatic weeds entwined and matted together. The eggs are eight or ten in number, of a greyish-white, spotted with yellowish-brown, and rounded at both ends. The food of this species is similar to that of its congeners, viz. worms, slugs, insects, and sometimes vegetables and seeds.

PLATE 30. Fig. 3. Represents this bird of the natural size, from a specimen caught near Melbourne, in Cambridge-shire, and now in the possession of the Rev. Dr THACKERY, Provost of King's College, Cambridge.

General
descrip-
tion.

Bill dark olive-green, thicker and shorter than that of *Crex pusilla*. Crown of the head, and back part of the neck, wood-brown. Throat and fore part of the neck, cheeks, breast, and belly, bluish-grey, with a few undulations of brown upon the breast, indicative of a young bird. Flanks, vent, and under tail-coverts greyish-black, barred with white. Upper parts yellowish-brown, tinged with oil-green, and marbled with irregular spots of white, each being surrounded by a narrow border of black. Outer web of the first quill-feather margined with white. Legs and toes yellowish-brown, tinged with flesh-red. Irides reddish-brown.

An adult male in my possession has the chin and throat pearl-grey; the forehead, cheeks, sides, and fore part of the neck, breast, and belly, plain bluish-grey; thighs, abdomen, vent, and under tail-coverts greyish-black, barred with white. Crown of the head, and hind part of the neck, yellowish-brown, with the shafts of the feathers darker. Down the centre of the back is a broad black list, varied with irregular spots of white. The scapulars, tertials, and wing-coverts yellowish-brown, tinged with oil-green, and varied with white spots and streaks, surrounded, or else barred, with black.

LITTLE CRAKE.

CREX PUSILLA, Mihi.

PLATE XXX. FIG. 4.

Rallus pusillus, *Lath. Ind. Orn.* 2. 761. sp. 24.—*Pall. Reis.* 3. 700. No. 30.
Gallinula pusilla, *Bechst. Naturg. Deut.* 4. 484.—*Temm. Man.* 2. 690.
Gallinula minuta, *Mont. Ornith. Dict. Supp.*
Zapornia pusilla, *Steph. Shaw's Zool.* 12. 231. pl. 28.
Poule d'Eau Poussin, *Temm. Man. d'Ornith.* 2. 690.
Kleines Rhorhuhn, *Meyer, Tasschenb. Deut.* 2. 414.
Dwarf Rail, *Lath. Syn. Sup.* 2. 323.
Little Gallinule, *Mont. Ornith. Dict. Supp.*
Little Craker, *Steph. Shaw's Zool.* 12. 231. pl. 28.

THE little Crake rather exceeds in size the preceding species, to which it bears a close resemblance in shape and colour. It may, however, always be distinguished from the other by the comparative slenderness of its bill, the greater length of its wings (which, when closed, reach nearly to the tip of the tail), and by the naked portion of the tibia being longer and more apparent than in *Crex Baillonii*. In consequence of this slight modification in the form of the bill, and its greater length of wing, Dr LEACH, in his Catalogue of the British Museum, separated it from the other Crakes, and gave it the generic name of *Zapornia* (an apparent transmutation of *Porzana*); in which distinction he has been followed by Mr STEPHENS, the continuator of SHAW's Zoology. I have, nevertheless, ventured to retain it amongst the Crakes, thinking that the very slight difference it exhibits is not of sufficient importance to warrant a generic division.—Like the *Crex Baillonii* it is of rare occurrence, and can only be considered as a visitant of that character. Its first notice, as a British species, is contained in MONTAGU's Supplement to his Ornithological Dictionary, under the name of the Little Gallinule (*Gallinula minuta*), where a specimen he received from Mr TUCKER, and apparently a young bird,

Rare visitant.

is accurately described: this bird, it appears, was shot near *Ashburton*, in Devonshire, in the year 1809. Since that time, few individuals have, I believe, been noted; one, however (an adult), now in the possession of the Rev. T. GISEBORNE, of Yoxall Lodge, Staffordshire, and Prebendary of Durham, was killed near Derby, and from which the figure in this work is taken. The habits of the Little Crake are similar to those of the other species, and it is found in similar localities, viz. marshes, moist meadows, the reedy banks of rivulets, &c. In the eastern and warmer parts of Europe it is very abundant, but becomes more thinly disseminated towards the north, being of occasional occurrence only in most of the provinces of France, and also in Holland. According to TEMMINCK, it makes its nest in rushes and other thick herbage, constructed chiefly of decayed and broken reeds; and lays seven or eight eggs, of a yellowish or greenish-white (*jaunâtres*), with longitudinal spots of olive-brown.

Nest, &c.

Food.

It feeds upon insects, worms, slugs, &c.

PLATE 30. Fig. 4. Represents it of the natural size, from the above mentioned specimen in the possession of the Rev. Mr GISEBORNE.

General
description.
Male
bird.

Bill five-eighths of an inch long, slender, and of a fine sap-green colour. Irides crimson-red. Throat, sides of the head, and neck, breast, and abdomen, deep bluish-grey. Crown of the head, back part of the neck, and upper parts of the body, deep oil-green, tinged with brown. Down the mesial line of the back is a broad streak or patch, composed of feathers marbled with black and white. The scapulars have a longitudinal bar of white, encircled with black, near the margins of the feathers. Smaller coverts plain oil-green, the greater ones having white tips, surrounded by a line of black. Vent and under tail-coverts blackish-grey, transversely barred with white. Quills and tail hair-brown, tinged with oil-green. Legs and toes sap-green. Tarsus one

inch in length. Middle toe, with its claw, one inch and a half long. Wing-spine small and short.

In the female, the eyebrows and cheeks are pale grey. Female.

The throat greyish-white. Neck and breast of a paler grey, slightly tinged with yellowish-brown. The dark mesial line on the back having fewer white spots.

The young have few or no distinct white spots upon the upper parts of the body; and the fore part of the neck, the breast, and belly, are of a yellowish-white. The flanks, vent, and under tail-coverts brown, barred with pale yellowish-brown. Young.

For a more detailed account of this bird, I refer my readers to the Supplement to MONTAGU'S Ornithological Dictionary, under the article *Gallinule*, *Little*.

GENUS GALLINULA, LATH. GALLINULE.

GENERIC CHARACTERS.

Bill thick at the base, compressed, slightly swollen towards the tip, subconic, as short as the head. Upper mandible convex, with the culmen extended and dilated, forming a naked frontal plate or shield; lateral furrow wide. Mandibles of nearly equal length; angle of the lower one ascending. Tomia of the under mandible slightly intracted, and covered by the upper.

Nostrils lateral, pervious, pierced in the membrane of the furrow in the middle of the bill; longitudinal, and linear.

Wings (as in *Rallus* and *Crex*) armed with a small sharp recumbent spine.

Legs strong, of mean length, naked for a short space above the tarsal joint. Front of the tarsus scutellated; hinder part reticulated. Feet four-toed, three before and one behind; toes long, divided, and bordered through their whole length by a narrow entire membrane.

Plumage soft, thick, but loose in texture. Body compressed at the sides.

The Gallinules differ from the preceding genus in having the culmen of the upper mandible dilated in a plate-like form upon the forehead, and in having their toes bordered, for the whole of their length, by a narrow unbroken membrane. Their habits are also more aquatic, being more frequently seen upon the water, where they swim and dive with facility, and in which element they procure a principal part of their food. In affinity, they stand nearly allied to the genus *Crex* on the one hand, and to those of *Porphyrio* and *Fulica* on the other. With them the body is compressed, but not to so great a degree as in the Rails and Crakes. They run swiftly, and, when danger threatens, hide themselves in reeds, sedges, holes in river banks, &c. They breed in the neighbourhood of water, frequently founding the nest upon floating weeds or drift bushes, and lay several eggs. Their food consists of insects, worms, slugs, vegetables, and seeds.

COMMON GALLINULE.

GALLINULA CHLOROPUS, Lath.

PLATE XXXI.

- Gallinula Chloropus*, Lath. Ind. Ornith. 2. 770. sp. 13.—*Steph.* Shaw's Zool. 12. 242. pl. 30.—*Flem.* Br. Anim. 1. 99. sp. 130.
Fulica Chloropus, Linn. Syst. 1. 258. 4.—*Gmel.* Syst. 1. 698.
Gallinula Chloropus major, *Ratii* Syn. p. 113. A. 1.—*Briss.* Ornith. 6. 3. 1. t. 1.—*Will.* 233. t. 58.
Poule d'Eau, *Buff.* Ois. 3. 171. t. 15.—*Id.* pl. Enl. 877.
Poule d'Eau ordinaire, *Temm.* Man. d'Ornith. 2. 693.
Grunfussiger Rhorhuhn, *Bechst.* Naturg. Deut. 4. 489.—*Meyer*, Taschenb. Deut. 2. 410.
Common Water-Hen, or Moor-Hen, *Will.* (Angl.) 312. 58.—*Albin.* Birds, 2. pl. 72. 3. pl. 91.—*Bewick's* Br. Birds, 2. 128.
Common Gallinule, *Penn.* Br. Zool. 2. 217. pl. 77.—*Arct.* Zool. 2. 411.—*Lath.* Syn. 5. 258. 12.—*Lewin's* Br. Birds, 5. pl. 191.—*Walc.* Syn. 2. pl. 169.—*Mont.* Ornith. Dict. 1.—*Shaw's* Zool. 12. 242.—*Flem.* Br. Anim. 1. 99. sp. 130.

- Gallinula fusca*, *Lath. Ind. Ornith.* 2. 771. sp. 15.
Fulica fusca, *Linn. Syst.* 1. 257. 1.—*Gmel. Syst.* 1. 697.
Gallinula minor, *Briss. Ornith.* 6. 6. f. 2.
Gallinula alia, *Aldrov.—Will.* 234.—*Id.* (Angl.) 314. and 319. } Young.
La Poulette d'Eau, *Buff. Ois.* 8. 177.
Brown Gallinule, *Lath. Syn.* 5. 260. 14.
Gallinula flavipes et fistulans, *Lath. Ind. Ornith.* 2. 773. sp. 21. et 22.—
Gmel. Syst. 1. p. 702.
 Yellow-legged, and Piping Gallinule, *Lath. Syn.* 5. 266. and 267. sp. 20. et
 21. These are taken from GESNER, who appears to have described them
 from imperfect drawings.

PROVINCIAL.—Moor-Hen, Marsh-Hen, Stank-Hen, Cuddy, Water-Hen,
 Moor-Coot.

THIS well known bird is indigenous, and very generally dispersed throughout the kingdom, inhabiting old water courses, and ponds covered with aquatic herbage, as well as brooks and rivers, particularly such as flow with a deep and slow current, and are bordered by sedges, willow bushes, &c. It is also dispersed throughout the European continent, where it is permanently stationary in the warmer and temperate districts, but migratory as it approaches nearer to the north. The species is also found in parts of *Asia* and *Africa*. The habits of the Gallinule are decidedly aquatic, as it swims from choice, and is indeed more frequently seen in the watery element than upon land; it also dives with ease, not only to avoid impending danger, but as it would appear for the purpose of obtaining food; as I have several times known it to have been taken by a line baited with an earth-worm for catching eels or trout. It is thus in all probability that the Gallinule obtains the larger coleopterous water insects, aquatic worms, and the larvæ of dragon-flies, &c. When suddenly surprised in a situation at all exposed, it usually takes wing, skimming along the surface of the water, but only for a short distance, to the first bush or cover that offers, where it conceals itself so effectually, either by submerging its body, and keeping only the bill above water, or in some hole or shelving retreat in the bank, as generally to defeat any attempts at raising it a second time, even with the assistance of a dog. Its flight is heavy, and when for a

short space only, with the legs hanging down; though it rises without apparent difficulty, and can occasionally take a long course on wing. It will sometimes perch upon a bush, or low tree, and that without effort, its long and slender toes giving to it a strong power of grasp. On the margins of ponds or rivers, where the grass is short, it is frequently seen walking about in search of worms and slugs, flirting up its tail at intervals, and thus displaying, in a conspicuous manner, its white under coverts; and as its motions are lively, it becomes a desirable ornamental appendage to those parts of pleasure grounds. For the site of its nest it selects a retired spot among the sedges or low brooks by the water-sides, its foundation frequently resting upon the low floating branches, or upon the stump of an old willow-tree. It is formed of an interlaced mass of decayed flags, rushes, &c. of considerable thickness; in which are deposited from eight to ten eggs, larger than those of the Meadow Crane, and of a yellowish-white, or pale yellowish-brown colour, marbled all over with a differently-sized spots of reddish-brown, or umber brown of various shades. These birds, when they leave the nest for the purpose of feeding, cover their eggs; an instinctive habit possessed by several others, not only of this but of other families, and which I conceive to be done rather with a view to concealment from their enemies, than to retain during their absence the warmth generated by incubation, as suggested by Dr RENNIE. After three weeks the young are excluded, covered with a black hairy down, and immediately take to the water, where they are assiduously attended by the parent, who frequently broods over them in the manner of a hen. This downy covering gradually gives place to the usual plumage, and in the course of nearly five weeks they can fly and provide for themselves. In this young state they are exposed to many dangers, and often become the prey of rats and other vermin, as well as of the voracious pike, which, according to MONTAGU, has been known even to swallow the old bird.—Their nests and eggs are also

liable to accident, being, from their close situation to the water's edge in brooks and rivers, often carried away by the summer floods.—Slugs, worms, and insects, with various vegetables and seeds constitute their food. I have kept these birds in good health, when in confinement, upon a diet of grain, earth-worms, and raw meat. Their flesh is of pale colour and delicate flavour, and is in some parts held in high estimation.

PLATE 31. represents an adult bird in the breeding season.

Base of the bill, and frontal shield red; the tip wine-yellow. Irides red. Legs and toes fine olive-green.

General
description.

The naked portion of the tibiae of a fine vermilion-red, and commonly called the *garter*. Head, throat, neck, and under parts blackish-grey, margined upon the belly and abdomen with greyish-white. Flanks with large longitudinal streaks of white. Upper parts of the body of a very deep oil-green. Ridge of the wings, and under tail-coverts white; the latter being divided by several black feathers. Quills and tail greyish-black.

The female is rather less than the male; and in her the colours of the bill and garter are not so bright; but in other respects similar.

The young have the throat and fore part of the neck white. Front and cheeks a mixture of brown and white. Sides of the neck yellowish-brown. Breast and sides ash-grey, tinged with brown; the belly paler. Flanks with yellowish-brown longitudinal streaks. Under tail coverts cream-yellow. Upper parts blackish-grey, tinged with dark oil-green. Legs dirty olive-green. Bill olive-green, darker towards the base, and the frontal shield but slightly apparent, being almost hidden by converging feathers.

Young.

GENUS FULICA, LINN. COOT.

GENERIC CHARACTERS.

Bill shorter than the head, strong, strait, subconic, compressed, much higher than broad. Upper mandible slightly arched; the culmen dilated into a broad shield-like plate upon the forehead; mandibular furrow broad, and occupying two-thirds of its length. Mandibles of equal length; the angle of the lower one ascending.

Nostrils concave, pierced in the membrane of the mandibular furrow near the middle of the bill, pervious, linear, oblong.

Wings tuberculated; with the second and third quill feathers the longest. Tail short. Body laterally compressed.

Legs of mean length and strength; naked for a short space above the tarsal joint. Feet four-toed, three before and one behind; toes long, united at their base, and lobated; the middle toe with *three*, the inner one with *two*, and the outer with *four*, distinct rounded membranes. Middle toe longer than the tarsus. Front of tarsus, upper part of the toes, and the membranes scutellated. Hind toe as long as the first joint of the middle one, and resting for half its length upon the ground. Claws falcate, acute. Plumage thick, soft, and open in texture.

In the present arrangement the Coots are placed in that station to which their real affinities (as indicated by their anatomy and habits), so plainly point, viz. at the extremity of the *Rallidæ*, and leading the way, by their lobated feet and aquatic character, to the true swimming birds, in the succeeding order of *Natatores*. From the Gallinules they are chiefly separated by the greater development of the membrane bordering the toes, which, instead of being narrow and entire as in that genus, becomes large and rounded

distinct lobes, which correspond with the phalanges, or joints of the toes. This formation gives them more power in the water, and we accordingly find them more conversant with that element than the preceding genera. In other respects there is great similarity of manners, and their narrow form and general appearance denote their near alliance to the typical *Rallidæ*. By former systematists, the Coots, together with the Phalaropes and Grebes, were made a distinct order, styled *Pinnatipedes*; an arrangement purely *artificial*, as the members of which it was composed were not united together by affinity, but only bore, in the form of their feet, a distant analogy to each other; for even here a considerable difference existed in structure, as will be evident to any one who compares the foot of the Coot with that of the Grebe.

The members of this genus inhabit lakes and ponds, as well as the more retired and calmer parts of inland seas. They live chiefly on the water, where they swim and dive with equal facility, and are but rarely seen on the land. They feed on worms, insects, aquatic vegetables, and seeds. The species are few, and their plumage is dark, and commonly without variety of colour. They breed amongst the close and tall herbage of the waters they inhabit, and lay several eggs. Their flesh is palatable.

COMMON COOT.

FULICA ATRA, Linn.

PLATE XXXII.

- Fulica atra*, Linn. Syst. 1. 257.—Lath. Ind. Ornith. 2. 777. sp. 1. variety.—*Gmel. Syst.* 1. 702.—*Briss. Ornith.* 6. 23. t. 2. f. 2.—*Raii Syn.* 116. A.—*Steph. Shaw's Zool.* 12. 234. pl. 29.—*Flem. Br. Anim.* 1. 100. sp. 132.
Fulica aterrima, Linn. Syst. 1. 258. 8.—*Gmel. Syst.* 1. 703.—*Lath. Ind. Ornith.* 2. 778. sp. 2.
Fulica major, *Briss. Ornith.* 5. 28. 2. t. 2. f. 2.—*Raii Syn.* 117. 2.—*Will.* p. 239. t. 51.
 Le Foulque ou Morelle, *Buff. Ois.* 8. 211. t. 18.—*Id.* Pl. Enl. 197.—*Cuv. Reg. Anim.* 1. 503.
 Le Grand Foulque ou la Macroule, *Buff. Ois.* 8. 220.

Foulque Macroule, *Temm. Man. d'Ornith.* 2. 706.
 Schwarzes Wasserhuhn, *Bechst. Naturg. Deut.* 4. 511.
 Greater Coot, *Penn. Br. Zool.* 2. No. 221.—*Lath. Syn.* 5. 277. 2.—*Will.* (Angl.) 320.—*Mont. Ornith. Dict.* 1.—*Bewick's Br. Birds*, 2. 137.
 Common Coot, *Penn. Br. Zool.* 2. 494. No. 220. pl. 77.—*Arct. Zool.* 2. No. 416.—*Albin's Br. Birds*, 1. pl. 83.—*Lath. Syn.* 5. 271.—*Id. Sup.* p. 259.
Will. (Angl.) 319. t. 59.—*Levin's Br. Birds*, 5. t. 198.—*Pult. Cat. Dorset.*—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*, 2. 133.—*Shaw's Zool.* 12. 234. pl. 29.

PROVINCIAL.—Bald Coot, Bel-poot.

DURING the summer, the Coot is very generally dispersed throughout this kingdom, as there is scarcely a large piece of water (provided it is partially covered with reeds, or other tall aquatic plants), to be found without a colony of these birds. MONTAGU states them to be permanent residents in the southern parts of England, and as never forsaking their breeding places, even though these may be smaller ponds; but, at the same time, he hints the probability that the vast flocks which are seen in the Southampton River, and other salt-water inlets, in winter, are bred farther to the northward, and resort to these places only as visitants at that period. Of the correctness of this supposition I entertain no doubt, as a long course of observation has shewn that the Coots in the north of England and in Scotland regularly quit their breeding stations in autumn; and that, after the month of October, not an individual is to be seen in their summer haunts. Their return in spring, as nearly as I can ascertain, takes place towards the end of April, or the beginning of May.—The Coot swims with buoyancy and ease, and is also an excellent diver; which latter faculty it frequently exerts to obtain food, as well as to escape from danger. Like the Gallinules, and others of the *Rallidæ*, it is very timorous and impatient of observation; and, when disturbed, immediately makes for the reeds or thick sedges (the necessary appendages to its habitat), where it effectually conceals itself, and remains so as long as the intruder continues in sight. Although generally seen in the water, it is far from being an inactive bird on land, as BEWICK and

some other writers have stated, but walks with steadiness, and can run even swiftly. Like the Gallinule, it often quits its favourite element in the morning and evening, seeking on the land for worms, slugs, seeds, &c., which, with aquatic plants and insects, and the fry of fish, constitute its food; though, in a state of confinement, it will greedily devour grain and other farinaceous diet. The same disinclination to use its wings is shewn by the Coot, that characterizes the Crakes and Gallinules, and it seldom flies, unless when suddenly disturbed or pursued, and then only to the nearest place of concealment; and so low, as to aid its progress by striking the surface of the water with its feet. That it is not, however, incapable of long-continued flight is evident from the migrations it undertakes; and I have more than once seen this bird flying at a considerable elevation, with a very unexpected degree of strength and speed. It breeds amongst the reeds and sedges at the water's edge, and the nest (composed of a large mass of decayed aquatic plants), sometimes rests upon a tuft of rushes, and at others is supported by the reeds in a floating state, or, where the water is shallow, may have its foundation on the bottom, as described by the Author of the "British Oology," whose interesting account of the nest of the Coot I quote in his own words: "I have had," says he, "an opportunity of examining many of their nests. They are large, and apparently clumsy at first sight, but are amazingly strong and compact: they are sometimes built on a tuft of rushes, but more commonly amongst reeds; some are supported by those that lie prostrate on the water, whilst others have their foundations at the bottom, and are raised till they become from six to twelve inches above its surface, sometimes in a depth of one and a half or two feet. So firm are some of them, that, whilst up to the knees in water, they afforded me a seat sufficiently strong to support my weight." From the nature of the materials composing the nest, and of the situation in which it is built, it sometimes happens that it is torn from

Food.

Nest, &c.

its moorings by floods, and afterwards floated at random on the surface of the water, without destroying the eggs, or preventing the female from continuing her incubation, as in the instances recorded by MONTAGU and BEWICK. The eggs are from seven to ten in number; their colour a dirty greenish-white, thickly covered with minute specks of brown, and with others, less numerous, but of a larger size and deeper tint. The young, when excluded, are clothed with a harsh black down, tipped with grey; having the base of the bill and forehead covered with small scarlet appendages, and the occiput surrounded with a circle of yellow hairy down. They immediately quit the nest and take to the water; where they are attended and protected by the parent, till able to provide for themselves. This species is widely disseminated throughout Europe, but is particularly abundant in Holland and in parts of France, and it is also found in many parts of Asia. The *Greater Coot* of authors is now considered to be the perfect or adult state of the common kind; but the *Common Coot* of WILSON's American Ornithology is a distinct species. In the southern parts of England, near Southampton, in the Isle of Sheppy, &c. great numbers of Coots are killed during the winter, and brought to market ready plucked; their flesh is white and tender, but the flavour, being peculiar, is not relished by many palates.

PLATE 32. represents this bird as seen in summer, and of the natural size.

General
description.

Bill pale rose-red. Irides arterial blood-red. Frontal plate large, milk-white. Head and neck deep greyish-black. Under parts of the body greyish-black, tinged with bluish-grey. Upper parts blackish-grey. Naked part of the tibiae orange. Legs and toes greenish-grey, tinged with yellow.

The young of the year are of less size, and have the frontal plate very small. The under parts of the plumage are pale grey.

FAMILY V.—CHARADRIADÆ.

THIS subdivision, constituting the fifth family of the Order, completes the circle; and, by its alliance with certain members of the *Gruide* (with which that circle commenced), a regular series of affinities is maintained through the different families of the *Grallatores*. It also comes into close contact with the *Struthionidæ* of the *Rasorial Order*, by the affinity subsisting between certain species of the genus *Otis* of that family, and the genera *Cursorius*, *Ædicnemus*, &c. of the present one. The passage from the preceding family of the *Rallidæ* seems to be effected by the genus *Hæmatopus*, which retains to a certain extent the habits and power of swimming possessed by the more aquatic groups of that family; and which also exhibits rudiments of the lobated membrane that borders the toes of the genus *Fulica*. With the *Scolopacidæ* the connexion is supported by the genus *Arenaria* (Sanderling), which, with the three-toed feet of *Charadrius*, has a bill nearly corresponding in structure with that of the *Tringæ*. An approach to that family, in the form of the feet, is also shewn by the genera *Streptilas*, *Vanellus*, and *Squatarola*, which alone of the *Charadriadæ* are furnished with a hind toe, or the rudiments of one. On this account the above genera have frequently been arranged with or near to the *Tringæ*; but the structure of the bill, and other anatomical details, as well as their habits, demonstrate a much closer alliance to the typical members of the family in which they are now placed, and point out this deviation in the form of the foot, as one of those beautiful gradations that compose the great chain of affinity by which the various orders and families are held together.

The habits of the *Charadriadæ* vary according to the relative situation they hold with the other groups; the typical

species, and such as come nearest in structure to the *Raſorial* Order, being more attached to the land, than those which are more immediately connected with the other families of the *Grallatores*. These latter live on the sea-coasts, or in places immediately contiguous to water, obtaining their food in a great measure from that element; the others, on the contrary, reside in the interior of the country, preferring open ground and plains; whilst some of them even inhabit the arid sands of the desert. A great proportion of this family feed at twilight, or during the night, and have the eyes large, which is necessarily attended by a corresponding expansion of the socket, giving the head a bulky appearance; and this is a characteristic feature with them. The number of eggs laid by most of the genera is restricted to *four*, as in the *Scolopacidae*; in *Ædicnemus*, however, it is confined to *two*, thus exhibiting the connexion of this genus with the Bustards. The flight of the *Charadriade* is in general strong and rapid; the wings being long, and usually brought to a point. Most of them are subject to the double moult, or that change of plumage which immediately precedes the season of reproduction.

GENUS HÆMATOPUS, LINN. OYSTER-CATCHER.

GENERIC CHARACTERS.

Bill longer than the head, strait, strong, the point much compressed and forming a wedge; culmen of the anterior part slightly convex. Upper mandible with a broad lateral groove, extending to one-half the length of the bill. Mandibles nearly equal, and having their tips truncated.

Nostrils basal, lateral, linear, pierced in the membrane of the mandibular groove.

Legs of mean length, naked for a short space above the tarsal joint. Tarsus strong; feet three-toed; all the toes

directed forwards, and united at their base by a membrane, that is prolonged, and margins them. Nails strong, broad, slightly falcate, and semi-acute. Wings of mean length, with the first quill-feather the longest.

Plumage close, firm, and adpressed. General contour robust.

The species hitherto described of this well-marked genus, although not numerous, are distributed over a wide geographical range, one or more of them being found in almost every quarter and climate of the globe. They dwell on the shores of the ocean, subsisting entirely on marine animals, such as molluscous shell fish, crustacea, &c., to detach and obtain which their strong wedge-shaped bill is admirably adapted. Their habits are more aquatic than the other groups of the family, indicated indeed by the membranes that unite and border their toes, and which conformation (as I have before remarked) preserves the connexion with the aquatic groups of the other families. They are thus enabled to swim with ease, and which they occasionally do, when passing from one feeding spot to another, where the water is too deep to admit of wading. During the winter, and whilst performing their migratory movements, they associate in large flocks; but on the approach of spring, they separate and pair. They are subject to a double moult, but not inducing any striking difference of colour. They are birds of a compact robust form, with a thick and muscular neck, well adapted to support the bill as a powerful lever in detaching patellæ, &c. from the rocks, or for wrenching open the shells of the bivalve molluscæ. Their flight is strong and steady, and can be sustained for a long time. They breed on the shingle of the sea-coasts, and lay invariably *four eggs*.

COMMON OYSTER-CATCHER.

HÆMATOPUS OSTRALEGUS, Linn.

PLATE XXXIII. FIGS. 1. 2.

- Hematopus ostralegus*, Linn. Syst. 1. 257.—Gmel. Syst. 1. 694.—Lath. Ind. Ornith. 2. 752. 1.—Raii Syn. 105. A. 7.—Will. 220. 55.—Shaw's Zool. 11. 494. pl. 36.—Flem. Brit. Anim. 1. 115. sp. 167.
Ostralega seu Pica marina, Briss. Orn. 5. 38. t. 3. f. 2.
L'Huiterier, Buff. Ois. 8. 119. t. 9.—Id. pl. Enl. 929.
L'Huiterier Pie, Temm. Man. d'Ornith. 2. 531.
Geschackte Austern-Fischer, Bechst. Naturg. Deut. 4. 439.
Sea Pie, or *Pied Oyster-Catcher*, Penn. Br. Zool. 2. No. 213. pl. 74. in Winter Plumage.—Arct. Zool. 2. 406.—Will. (Angl.) 297.—Albin. 1. t. 78.—Lath. Syn. 5. 219. t. 84.—Lewin's Br. Birds, 5. t. 188.—Mont. Ornith. Dict. Id. Sup.—Wall. Syn. 2. t. 166.—Pult. Cat. Dorset. p. 151.
Bewick's Br. Birds, 2. t. p. 7.—Low's Faun. Orcad. p. 91.
Common Oyster-Catcher, Shaw's Zool. 11. 494. pl. 36.—Flem. Br. Anim. 1. 115. sp. 169.

PROVINCIAL.—Pianet, Sea Piet, Olive, Sea Woodcock, Trillichan, Chalder, Chaldrick, Skildrake, Scolder.

Food.

THE peculiar form of the bill, by which this bird is enabled to wrench open oysters, muscles, &c. (by inserting its wedge-shaped point between the valves, as these shell-fish lay partially open in shallow water), has given rise to the British trivial name, now attached to the genus. In addition to bivalves, it feeds much upon the limpet (patella), detaching it with equal ease from the rock to which it adheres, and afterwards scooping out the fish from its shell by means of the same powerful instrument. This species is indigenous, and distributed along the whole extent of the British coast, but seems to be more numerous upon extensive flat shores, particularly those of Lincolnshire and of the Solway Frith, where it finds its favourite food, viz. the bivalve shell-fish, more abundant than where the coast is of a more abrupt and rocky character. It breeds upon the shore, laying its eggs on the bare ground amongst the shingle, or in such scanty herbage as grows immediately above high water-mark. The

eggs are invariably *four* in number, and not restricted to *two* or *three*, as stated by TEMMINCK; are of a pale oil-green colour, blotched with brownish-black; in that respect very similar to those of the Golden Plover (*Charadrius pluvialis*), but larger. During incubation the male bird is always on the watch, and immediately gives the alarm of apprehended danger to the female, by a loud shrill whistle, upon hearing which she silently quits her eggs, and runs to some distance before taking wing, or joining in the alarm cry with her mate. The parents are also very clamorous so long as the young (who quit the nest as soon as hatched) are unable to fly, and persecute any intruder with their incessant cries, flying around him in repeated circles, and often advancing very near, although at other times they are particularly wary and difficult of approach. After the young have acquired their full growth, these birds begin to assemble into large flocks, and continue thus associated during winter, or until the genial influence of the advancing season again induces them to separate and pair. The Oyster-Catcher is a bird of handsome appearance, of compact and rounded form, and when upon wing cannot fail to attract attention, from the pure white of the belly, wing-bars, and rump, contrasting well with the bright orange of the bill, and the glossy black of the rest of the body. Though possessing a foot only partially webbed, it swims easily and with much buoyancy, and, if wounded, immediately betakes itself to the water for safety. I have also seen it swimming from one feeding-place to another, where the intervening water was too deep for wading. Its flesh is of a dark colour, and partakes of the odour of the food on which it subsists. This is a widely distributed species, being found upon all the shores of the European continent, as well as those of Asia and Africa. It is not very difficult to rear this bird in confinement, and it is frequently kept so, with other aquatic species, for the neatness of its form, and the well contrasted colours of its plumage.

Nest, &c.

PLATE 33. Fig .1. Represents it in the summer plumage.

General
description.

Summer
plumage.

Head, neck, upper part of the breast, mantle, scapulars, lesser wing-coverts, and the front half of the tail, glossy velvet black. Under parts, lower part of the back, rump, basal part of the tail, and the transverse wing bars pure white. Quills black, with an oblong white spot occupying the centre of each feather near the tip, and the basal part of the inner web white. Bill, and circle round the eyes, orange-red. Irides crimson. Legs deep purplish-red.

Winter
plumage.

Fig. 2. In the winter plumage. Distinguished by a collar of white beneath the throat; the dark parts of the plumage not so intense, but more inclining to brownish-black, and the bill and legs of paler hue.

The young of the year have still more brown in the dark parts, and the white is not of such unsullied purity as in the adults. The feet are livid or greyish-white, tinged with pink. The irides brown. The bill yellowish-brown, tinged with orange.

GENUS STREPSILAS, *ILLIGER*. TURNSTONE.

GENERIC CHARACTERS.

BILL as short as the head, strong, compressed, forming an elongated cone; thick at the base, and narrowing gradually to the point, which is horny and hard. Upper mandible rather longer than the lower one; the culmen flattened at the base, and rounded from thence to its extremity, which is subtruncated. Under mandible ascending.

Nostrils basal, lateral, linear, oblong, pervious, partly covered above by a membrane.

Wings long, acuminate, with the first quill-feather the longest.

Legs of mean length; the naked space above the tarsal joint small. Feet four-toed, three before and one behind; the front ones united by a short membrane at the base, and furnished with narrow lobated margins; hind toe articulated upon the tarsus, bending inwards, and touching the ground with its tip.

Plumage thick, close, and adpressed.

In the systems of LINNÆUS, LATHAM, and others, the Turnstone was arranged, along with other Scolopaceous birds, in the genus *Tringa*, although the form and structure of the bill presented characters sufficiently distinct to shew the impropriety of such a classification, without considering the difference exhibited in their respective habits. BRISSON first removed it from this situation, under the name of *Arenaria*; but as that title was appropriated to the Sanderling (*Tringa Arenaria* of LINNÆUS, now *Arenaria Calidris* of BECHSTEIN), the generic name of *Strepsilas*, bestowed by ILLIGER (and happily descriptive of a peculiar habit possessed by the only known species), has now been generally adopted. As the general economy of this bird is much more closely assimilated to that of a *Plover* than to any member of the family of the *Scolopacidae*, I have adopted Mr VIGORS's views with respect to it, and have accordingly made it a constituent member of the *Charadriadæ*.

Hitherto only one species has been discovered, but which holds a wide geographical range, being found in all the divisions of the old, as well as in the new world, and subject to a great variety of climate, during the periods of its migrations.

COMMON TURNSTONE.

STREPSILAS INTERPRES, Leach.

PLATE XXXIII. * FIG. 1, 2, and 3.

Strepsilas Interpres, Leach in Cat. Brit. Mus. p. 29.—*Steph.* Shaw's Zool. 11. 520. pl. 39.—*Flem.* Br. Anim. 1. 110. sp. 159.

Strepsilas collaris, Temm. Man. d'Ornith. 2. 553.

Tourne-Pierre à collier, Temm. Man. 2. 553.

Common Turnstone, Shaw's Zool. 11. 520. pl. 39.—*Flem.* Br. Anim. 1. 110. sp. 159.

Tringa Interpres, Linn. Syst. 1. 243. 4.—*Gmel.* Syst. 1. 671.—*Lath.* Ind. Ornith. 2. 738. sp. 45.

Arenaria, Briss. Orn. 5. 132. 1.

Morinellus marinus, Raii Syn. 112. A. 5.—*Will.* 251. t. 58.

Le Tourne-Pierre, Buff. Ois. 8. 130. 10.

Le Coulond Chaud, Buff. Pl. Enl. 856.

Steindrehende Strandläufer, Bechst. Naturg. Deut. 4. 335.—*Meyer*, Tassenb. Deut. 2. 382.

Hebridial Sandpiper, Br. Zool. 2. 467. No. 200.—*Arct.* Zool. 2. No. 382.

Turnstone or Sea Dotterel, Edw. Glean. t. 141.—*Will.* (Angl.) 311.—*Lath.* Syn. 5. 188. sp. 37.—*Id.* sup. 249.—*Lewin's* Br. Birds, 5. 179.—*Mont.* Ornith. Dict. 1.—*Low's* Faun. Orcad. 87. and 850.—*Bewick's* Br. Birds, 2. 124. and 126.

Tringa Morinella, Linn. Syst. 1. 249. 6.—*Gmel.* Syst. 1. 671. 4. B.

Arenaria cinerea, Briss. Orn. 5. 137. No. 2. t. 11. f. 2.

Coulond Chaud de Cayenne, et Coulond Chaud gris de Cayenne, Buff. Pl. Enl. 340. et 857.

Turnstone or Sea Dotterel, Penn. Br. Zool. 2. No. 199.—*Lath.* Syn. 5. 190. 37. var. A.

PROVINCIAL.—Skirlcrake.

Young.

Periodical
visitant.

THIS handsome bird (the only species of this genus hitherto discovered) is amongst the number of our winter visitants, making its first appearance on our shores sometimes as early as the end of August, and continuing till the spring, when it departs, about March or April, for higher northern latitudes, there to breed and pass the summer months. Dr FLEMING, in his "History of British Animals," states it as a constant resident in Zetland, having met with it at all seasons of the year. It certainly appears, at first sight, to be a contradictory circumstance, that a bird, which in Eng-

land and on the mainland of Scotland is only known as a winter visitant, should be stationary through the year in a country still farther northward. The peculiarity of climate thus indicated, is in all probability attributable to the small extent of the Shetland Isles, and the great body of water surrounding them, being thus rendered a suitable habitat at all seasons to the constitution and habits of the bird. It lives on the rocky or gravelly shores of the ocean, and is never seen upon the soft and oozy sands, frequented by the *Scolopacidae*; and is also met with, but less frequently, upon the larger rivers and lakes of the interior of Continental countries. It is seldom found associated in flocks, being either a few together (probably the brood of the preceding year) or single; and this last is generally the case with adults. It feeds on marine, coleopterous, and other insects, as well as on small bivalve molluscae and crustaceae, which it finds by turning over the stones with its bill,—an instrument most beautifully adapted for that purpose, being strong, very hard, and drawn to a fine point, and forming altogether a powerful lever. In other respects the manners of the Turnstone resemble those of the Plovers; and I have frequently found it in company with the Ring Dotterel (*Charadrius Hiaticula*), which inhabits similar shores. TEMMINCK considers this bird as subject to only one moult within the year, and that the young probably undergo three of these changes before they acquire the mature plumage. My observations, however, do not accord with this opinion, as I have frequently killed it in spring, when undergoing a change, which I considered as the assumption of what he has appropriately termed the *nuptial livery*; and at this time also, I think the young birds acquire the plumage described by him as characteristic of their completing the first year. The Turnstone is found upon most of the European shores, but is particularly abundant in Norway, and on the coasts of the Baltic. In Africa it is met with in Senegal, at the Cape of Good Hope, and several other parts. Its distribu-

Food.

tion through Asia is equally extensive; and the species from the American continent is in every respect similar to our own. It thus embraces a geographical range, known to few others, but which tends to confirm an observation advanced, viz. that the distribution of species seems to be more or less extended, in an inverse proportion, to the number each genus contains.—This bird breeds (as before mentioned) in the higher latitudes; and, for a nest, merely scrapes a small hole in the gravel, there depositing its eggs, four in number, of an oil-green or yellowish-grey colour, blotched and spotted with brown. Captain SABINE mentions it as breeding in the North Georgian Islands.—Its flight is very similar to that of the Dotterel and Ring Plover, and it frequently utters, when on wing, a short whistling note. It runs swiftly, and is a brisk and lively bird.

PLATE 33.* Fig. 1. Represents the male in mature plumage.

General
description.
Mature
plumage.

Forehead, eyebrows, oval space between the bill and eyes, throat, nape and hind part of the neck white. Crown of the head black, the feathers being margined with yellowish-white. From the base of the under mandible, on each side, proceeds a band of black which surrounds the eyes, and, passing down the sides of the neck, joins the large gorget of black that occupies the lower part of the neck and upper part of the breast. Mantle and scapulars reddish-brown, irregularly varied with black. Lower part of the back, and upper tail-coverts, white. Rump black. Lateral tail-feathers white, the central ones black. Quills having their outer webs black, the basal parts of the inner webs and the shafts white. Secondaries having broad white tips, forming a distinct bar across the wings. Belly, abdomen, vent, and under tail-coverts pure white. Legs and toes orpiment-orange, with the joints darker. Bill black.

Fig. 2. Is the female, resembling the male bird, except that the colours are not so distinct or bright, and the white on the head and neck less pure.

Fig. 3. The young of the year.

Young of
the year.

In this state the cheeks and throat are white. Head and neck hair-brown, with darker variegations. Collar and gorget black, edged with greyish-white. Back and scapulars hair-brown, glossed with olive-green, each feather having its tip black, margined with yellowish-white. Outer tail-feather white, with a large black spot near the tip, the rest tipped with white. Legs honey-yellow. It is frequently met with in an intermediate state, with more or less of the reddish-brown; and the collar, eye-patch, &c. less marked and distinct than in the adult bird.

GENUS ARENARIA, *BECHST.* SANDERLING.

GENERIC CHARACTERS.

BILL as long as the head, strait, slender, semi-flexible, compressed at the base, with the tip dilated and smooth.

Nostrils lateral, basal, narrow, longitudinally cleft in the nasal furrow, which extends to the *dertrum* or nail of the bill.

Wings of mean length, acuminate, with the first quill-feather the longest.

Legs slender, of mean length, naked above the tarsal joint. **Feet** three-toed, all the toes directed forwards, with a very small connecting membrane at their base.

By LINNÆUS the Sanderling was at first arranged with the *Tringas*, but afterwards transferred to the genus *Charadrius*, in which it was retained by GMELIN and LATHAM.

Subsequent authors, however, very properly separated it from the *true* Plovers (as the form of its bill was plainly incompatible with such an arrangement), and made it the type of a separate genus, named, by BECHSTEIN and MEYER, *Arenaria*, and by ILLIGER *Calidris*. In the form of its feet and general habits we trace its affinity to the typical *Charadriadae*, so that its situation in this *Family* is distinctly marked. At the same time, the connexion of this bird with the *Scolopacidae* is supported by the structure of its bill, which strongly resembles that of the genus *Tringa*; and it thus becomes one of those essential links, as it were, that so beautifully unite the groups of the different families throughout the whole feathered tribe.

The Sanderling is as yet the only species of its genus. Its geographical range is extensive, being found, during its periodical migrations, in all quarters of the globe. It is subject to the double moult, and the change from the winter to the summer plumage is very distinct.

COMMON SANDERLING.

ARENARIA CALIDRIS, Meyer.

PLATE XXXVI. FIGS. 1 & 2.

- Arenaria Calidris*, Meyer, Tasschenb. Deut. 7. 68. pl. 59. f. 4.
Arenaria vulgaris, Steph. Shaw's Zool. 11. 490. pl. 35.
Calidris arenaria, Leach's Cat. Br. Mus. p. 28.—Flem. Brit. Anim. 1. 112. sp. 162.
 Sanderling variable, Temm. Man. d'Ornith. 2. 524.
 Common Sanderling, Shaw's Zool. 11. 490. pl. 35. winter plumage.—Flem. Br. Anim. 1. 112. 162.
Tringa arenaria, Linn. Syst. 1. 255. 9.—Raii Syn. 109. A. 11.—Gmel. Syst. 1. 680.
Charadrius grisea minor, Briss. Ornith. 5. 636. 17. t. 20. f. 2.
 Le Sanderling, Buff. Ois. 7. 532.
Charadrius Calidris, Linn. Syst. 1. 255. 9.—Gmel. Syst. 1. 689.—Lath. Ind. Ornith. 2. 741. sp. 4.
Arenaria vulgaris, Bechst. Tasschenb. Deut. 2. 462.
 Sanderling, or Curwillet, Penn. Br. Zool. 2. 480. No. 212. pl. 73.—Arct. Zool. 2. 403.—Will. (Angl.) 303.—Lath. Syn. Sup. 5. 197.—Id. Sup. 253.—Lath. Syn. Sup. 2. 315.—Bewick's Br. Birds, 2. t. p. 1.—Pult. Cat. Dorset. 16.—Mont. Ornith. Dict. 2.—Id. Sup.—Wils. Amer. Orn. 7. 68. pl. 59. fig. 4.

Winter
plumage,
and young.

Charadrius rubidus, *Gmel. Syst.* 1. 688.—*Lath. Ind. Ornith.* 2. 740. sp. 2. } Summer
 —*Wils. Amer. Ornith.* 7. 129. pl. 63. fig. 3. } Plumage.
Ruddy Plover, *Penn. Arct. Zool.* 2. 404.—*Lath. Syn.* 5. 195. 2.—*Wils.* }
Amer. Ornith. 7. 129. pl. 63. fig. 3.

PROVINCIAL,—Curwillet, Towilly.

THIS active little bird is a visitant to our shores during the winter season, being one of the various species whose polar migration extends far within the arctic circle. Its residence in those dreary northern climes appears, however, to be confined to little beyond the time necessarily occupied by the duties attendant on reproduction, as it is seen on our coast sometimes as early as the month of August, at which time I have killed several individuals upon the Northumbrian strand. These have generally been the young of the year, and are probably stragglers from flocks of the earliest broods, whose destination is pointed to more southern latitudes; as the great body, that resorts to our shores, and those of the opposite continent, seldom arrives before the middle of September. Upon their first appearance, we find few of them possessing the complete winter plumage, bearing still strong indications of their summer clothing, varied, of course, according to the advance in winter dress of each individual, and presenting much diversity of appearance. The change, however, goes rapidly on, and, in October, they are perfectly clad in the plain garb that distinguishes them till the approach of spring, when it gives place to a gayer and more attractive suit, appropriately styled by TEMMINCK, "*Plumage des Noces*." This bird lives on the sandy shores of the ocean, but does not frequent those of an oozy or slimy nature; in habits it strongly resembles the smaller species of *Charadrius*, and sometimes associates with *Charadrius hiaticula*. It runs very swiftly, and its flight is strong and rapid. It feeds on the smaller marine coleopterous insects and minute worms and larvæ, which it finds on the beach. The distribution of the species, during its migrations, is widely spread, as it has been met with throughout the greater part

Periodical
visitant.

Food.

Nest, &c. of Europe and Asia, and also in North America.—Its nest and eggs remain yet undescribed, though it is known to retire to the arctic regions during the summer months, for the purpose of incubation. Dr FLEMING has suggested, that, in all probability, it may occasionally breed in Great Britain, as it has been observed in the Mull of Cantyre as late as on the 2d of June (Linn. Transac. vol. viii. p. 268,); no discovery of such a fact, however, having come within my knowledge, even after diligent inquiry, it may be presumed that such instances of late appearance have arisen from some injury sustained by the individuals thus seen; although it may be remarked, that even after the period above mentioned, sufficient time would still remain to enable the birds to reach the nearest breeding station, and rear their young, before the close of the polar summer compelled them to remigrate to more southern latitudes.

PLATE 36. Fig. 1. represents the Sanderling in the winter plumage.

General
description.
Winter
plumage.

Front, throat, sides of the neck, and the whole of the under parts, pure white. Crown, nape of the neck, back, and scapulars, ash-grey, the shafts of the feathers being blackish-brown. Secondary quills hair-brown, with broad white tips, forming a bar across the wings. Greater quills having their outer webs deep hair-brown, and their shafts white. Tail cuneated; the middle feathers hair-brown, margined with white; the outer ones greyish-white. Elbow of the wings deep hair-brown. Bill and legs black.

Fig. 2. In the summer or nuptial dress.

Summer
plumage.

Crown of the head, and forehead, black; the feathers being margined with pale reddish-brown and white. Throat, neck, and breast, a mixture of reddish-brown, ash-grey, and brownish-black. Back and scapulars reddish-brown, with large irregular patches and spots of black. Greater coverts blackish-brown, margined and

tipped with white; and forming a bar across the wings.

Quills brownish-black.

In the first, or nestling plumage, the forehead, eye-streak, Young.

cheeks, and throat, are white. At the lower part of the neck is a zone of pale cream or yellowish-white, which passes into light ash-grey upon the upper part of the breast. Under parts of the body white. Crown of the head black, margined and spotted with pale buff. Nape and hind part of the neck pale ash-grey, with darker streaks. Mantle and scapulars black, margined and spotted with white. Tertiaries hair-brown, margined with greyish-white. Quills and tail as in the winter plumage of the adult bird. Legs deep grey.

GENUS GLAREOLA. PRATINCOLE.

GENERIC CHARACTERS.

Bill short, hard, bulging at the base, convex, and curved for upwards of half its length, compressed towards the point; gape wide, the commissure extending as far as the anterior angle of the eye; edges of the under mandible bending inwards, and covered by those of the upper, whose curvature they follow. Nostrils basal, lateral, and obliquely cleft.

Legs of mean length, slender; with part of the tibiæ immediately above the tarsal joint naked. Feet four-toed; three before and one behind; the outer united at its base to the middle one by a membrane; the inner toe free. Claws rather long, nearly straight, truncated; that of the middle toe imperfectly pectinated.

Wings very long; the first quill-feather being the longest. Tail more or less forked.

The members of this genus are inhabitants of the temperate and warmer climates of the ancient world. They fre-

quent the margins of lakes and rivers, as well as marshes of the interior of the country, feeding chiefly upon the insects that such situations abundantly afford, and which they take both on wing and on the ground, where the birds can run very swiftly. Their flight, from the great length of wing, and forked shape of the tail, is also extremely rapid. Their moult is said to be double, but there is no abrupt or very marked change of colour between the winter and spring plumage, the variation principally consists in an additional brilliancy and depth of tint. By LINNÆUS, who, with respect to this group, appears to have mistaken *similitude* for *affinity*, the Glareoles were placed amongst his Hirudines; in which error he has been followed by many subsequent compilers. In the "Index Ornithologicus" of LATHAM, we find the genus *Glareola* standing next to *Rallus*; CUVIER, also, in his "Regne Animal," placed it at the extremity of his family of *Macrodictyles*, but as a group which he found it difficult to reconcile in character with the others. In the first edition of the "Land Birds" of this work, in which the systematic arrangement of TEMMINCK was chiefly adopted, (the publication of it having been previous to the introduction of the *natural* system, or that founded upon the true affinities connecting the various orders and families), the *Glareola* was given as a member of the *Alectorides*; an order framed by TEMMINCK for the reception of a few genera, whose affinities he had not accurately traced, or which, upon investigation, he could not readily arrange with his other systematic divisions. These are now more appropriately transferred to the stations they should occupy according to their affinities; and it is upon the connexion which may be traced with the other members of the family of *Charadriadæ*, that the genus *Glareola* now becomes included in that family.

COLLARED PRATINCOLE*.

GLAREOLA TORQUATA.

PLATE LXIII.

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| Glareola torquata, <i>Meyer</i> , Tasschenb. Deut. 2. 404. | } Old and young of both sexes. |
| Glareole à Collier, <i>Temm.</i> Man. d'Ornith. 2. 500. | |
| Glareola Austriaca, <i>Lath.</i> Ind. Orn. 2. 753. sp. 1. | |
| Hirundo Pratincola, <i>Linn.</i> Syst. 345. sp. 12.— <i>Gmel.</i> Syst. 1. 695.— <i>Bullock</i> in Trans. Linn. Soc. 11. 177. | |
| Glareola, <i>Briss.</i> 5. 141. t. 12. f. 1. | |
| Hirundo marina, <i>Raii</i> Syn. 72.— <i>Will.</i> 156. | } Young and other varieties. |
| La Perdrix de Mer, <i>Buff.</i> Ois. 7. 544. — <i>Id.</i> Pl. Enl. 882. | |
| Das Rothfussige Sandhuhn, <i>Bechst.</i> Naturg. Deut. 4. 457. t. 13. | |
| Austrian Pratincole, <i>Lath.</i> Syn. 5. 222. t. 85.— <i>Mont.</i> Ornith. Dict. Sup. with a figure.— <i>Bullock</i> in Trans. Linn. Soc. 11. 177. | |
| Glareola Senegalensis et Nævia, <i>Gmel.</i> Syst. 1. 695. sp. 1. 2. and 3.— <i>Lath.</i> Ind. Orn. 2. 753. and 754, sp. 2. 3. and the varieties.— <i>Briss.</i> 3. 147 and 148. | |
| Le Perdrix de Mer, La Grise, La Brune, and La Giarole, <i>Buff.</i> Ois. 7. 544 et 245. | } |
| Das Braunringige Sandhuhn, und Gefleckte Sandhuhn, <i>Bechst.</i> Naturg. Deut. 4. 461. var. A. B. | |
| Coromandel, Senegal, Spotted, and other varieties, <i>Lath.</i> Syn. 5. 224 et 225. | |

THE Collared Pratincole was first added to the British ^{Rare} Fauna by Mr BULLOCK, proprietor of the late London ^{visitant.} Museum, who, in May 1807, received a specimen that was shot near Ormskirk in Lancashire, and which is now in the celebrated collection of Lord STANLEY. He afterwards, in an excursion to the northern parts of Scotland in 1812, killed another in the island of Unst, the northernmost of the Shetland group; and, as the circumstances are interesting, as

* In consequence of the different station in the system now properly assigned to this bird, its description has been removed from the letter-press of the Land Birds, in the second edition of that volume; at the same time, it has not been possible to make a similar arrangement in the volumes of Plates. I must therefore trust to the indulgence of my readers, and hope they will not find much inconvenience in still referring to Part I. for the figure of the Pratincole.

tending to elucidate the manners of the species, I quote them from the description he has given in the Transactions of the Linnean Society. "When I first discovered it, it rose within a few feet, and flew round me in the manner of a Swallow, and then alighted close to the head of a cow that was tethered within ten yards distance. After examining it a few minutes, I returned to the house of T. EDMONDSONE, Esq. for my gun, and, accompanied by that gentleman's brother, went in search of it. After a short time, it came out of some growing corn, and was catching insects at the time I fired, and, being only wounded in the wing, we had an opportunity of examining it alive. In the form of its bill, wings, and tail, as well as its mode of flight, it greatly resembles the genus *Hirundo*; but, contrary to the whole of this family, the legs were long, and bare above the knee, agreeing with *Tringa*; and, like the Sandpipers, it ran with the greatest rapidity when on the ground, or in shallow water, in pursuit of its food, which was wholly of flies, and of which its stomach was full." In the above description we recognise nothing that allies this bird to the *Hirundinidæ*, beyond certain peculiarities possessed to an equal extent by some of the *Terns* (of the family of the *Laridæ*, and the order *Natatores*), as well as by birds of other families and orders, viz. a full development of the wings and tail for the purposes of flight, which mere external resemblances will not imply any real affinity existing; on the other hand, its manners and anatomy point out the true situation it holds in the natural system.—The Pratincole inhabits the borders of lakes, rivers, and inland seas, particularly such as form extensive marshes covered with reeds, and other aquatic herbage. In Hungary, it abounds on the marshy confines of the lakes Neusidel and Baladon, where it was seen by TEMMINCK in flocks of hundreds together; and it is also met with in some provinces of Germany and France, as well as in Switzerland and Italy, but in these latter countries only as a bird of passage, or rather perhaps as an occasional visitant. In Tartary, and

the central parts of Asia, it is common, and indeed its geographical distribution seems to be very extensive, as might naturally be expected from its great power of flight. It feeds on flies, beetles, worms, and other aquatic insects, taken (as before noticed) either on wing or the ground, where it runs with great swiftness.—Its flight is singularly rapid, surpassing perhaps even that of any of the Swallow tribe.—Its nest is formed amongst the rushes, and the thick herbage of its above mentioned localities, and it lays several eggs, of which the colour has not been noticed by any author. This bird, from the change of plumage it undergoes at different seasons, and also attendant upon age, has been multiplied by some writers into three or four species, but which are clearly referable to the single one now under consideration. Two species, distinct from the present one, are, however, given by TEMMINCK, as found on the Asiatic Continent and in New Holland, but never met with in Europe, viz. *Glareola Grallaria* and *Glareola lactea*, and which are figured in the “Planches Coloriées” of the same author.

Food.

Nest, &c.

PART I. PLATE 63. Represents this bird of the natural size.

Head, nape of the neck, back, scapulars, and wing-coverts, yellowish-brown, inclining to wood-brown, with a metallic lustre. Throat, and fore part of the neck reddish-white, bounded by a narrow list of black, which proceeds upwards and joins a black streak between the bill and the eyes. Breast pale wood-brown; abdomen and vent white. Upper tail-coverts white. Tail much forked, having the basal half of its feathers white, the rest blackish-brown. Under wing-coverts brownish-red. Quills blackish-brown. Edges of the bill, and base of the lower mandible bright scarlet-orange. Legs brownish-purple red. Irides light reddish-brown.

General description.

GENUS CURSORIUS, LATH. SWIFTFOOT.

GENERIC CHARACTERS.

Bill as short or shorter than the head, depressed at the base, curved towards the end, and pointed. Tomia of the under mandible covered by those of the upper one, and following its curve.

Nostrils basal, lateral, oval, and surrounded by a small protuberance.

Wings of mean length, having the first quill-feather nearly equal to the second, which is the longest.

Legs long, slender, with the tibiæ naked for a considerable space above the tarsal joint. Feet three-toed; toes all directed forwards, short, and united at their base by a membrane. Naked part of the tibiæ, front of the tarsus, and upper part of the toes scutellated. In nails, that of the middle toe broad, with its inner margin pectinated.

The genus *Cursorius* was established by LATHAM, for the reception of the two species then known, and which had been included by GMELIN in the genus *Charadrius* of LINNÆUS, notwithstanding they exhibited well-marked characters peculiar to themselves. TEMMINCK adopted LATHAM's title, but transferred the genus from its situation, adjoining to the Plovers, to his order *Cursorius*; which nearly answers to the family of *Struthionidæ*, in the *rasorial* order of the present system. This arrangement was also adopted in the volume of letter-press that accompanied the first series of the "Illustrations of British Ornithology;" but as subsequent investigation into the affinities of the genus seems confirmative of the correctness of the opinion of Mr VIGORS, with respect to the situation it holds in the natural arrangement, I have again placed it amongst the *Charadriadæ*, in the order

Grallatores, as being still more closely allied to the typical members of that family, than to the Bustards, or other genera of the *Struthionidæ*. In addition to the two species above alluded to, three others have been discovered, which are beautifully displayed in the "Planches Coloriées." These birds are all natives of the ancient continent, inhabiting the sandy deserts of Asia and Africa. Of their habits and other peculiarities not much is known, but such information as we possess tends to confirm the propriety of their position between the other genera of the present family, and the smaller members of the *Struthionidæ*. They run with surprising speed, and their flight, from the full development of their wings, is swift and powerful.

CREAM-COLOURED SWIFTFOOT†.

CURSORIUS ISABELLINUS, Meyer.

PLATE XXXIII **.

- Cursorius Isabellinus*, Meyer, Tasschenb. Deut. 2. 328.—*Temm.* Man. d'Ornith. 2. 513.—*Steph.* Shaw's Zool. 11. 500. pl. 37.
Cursorius Europæus, Lath. Ind. Ornith. 2. 751. 1.
Charadrius Gallicus, Gmel. Syst. 1. 692.
Le Court-vite, Buff. Ois. 8. 128.—Id. Pl. Enl. 795.—*Lesson.* 2. 203.
Court-vite Isabelle, *Temm.* Man. d'Ornith. 2. 513.
Cream-coloured Plover, Lath. Syn. 5. 217. 25.—Id. Sup. 254. t. 116.—*Lewin's* Br. Birds, 5. pl. 187.—*Walc.* Syn. 2. pl. 164.—*Mont.* Ornith. Dict. 2.—Id. Sup.
Cream-coloured Courser, *Steph.* Shaw's Zool. 11. 500. pl. 37. an ill-drawn figure.

SINCE the publication of the First Part of the present work, an instance has fortunately occurred of the Cream-coloured Swiftfoot having been killed near Timberwood Hill, in Charwood Forest, Leicestershire, in October 1827.

† I have to offer a similar apology to my readers for the transfer of this bird, from the *First* to the *Second* Part of these "Illustrations," that I have already made in the preceding note (on the *Collared Pratincole*), with this fortunate exception, that the *representation* of the Swiftfoot will be found in its proper place (in Part Second of the Plates); as an accompanying figure was not given in Part First.

Very rare
visitant.

This beautiful specimen, now in the possession of the Rev. T. GISBORNE, of Yoxall Lodge, Staffordshire, was kindly lent to me for the purpose of enriching these "Illustrations;" and I have thus been enabled to give a correct figure of this bird in the Second Series, in the situation that it properly holds in the systematic arrangement now adopted. It is one of our rarest visitants, the above being, as far as I can collect, the third instance only of its appearance in Britain. Of the two prior specimens, one was shot in Kent, near the seat of WILLIAM HAMMOND, Esq. and was sent to Dr LATHAM*; and, as the following account which accompanied it is particularly interesting, as being descriptive of its manners, I make no apology for transcribing it:—"It was first met with running upon some light land, and so little fearful was it, that, after having sent for a gun, one was brought to him, which did not readily go off, having been charged some time, and in consequence missed his aim. The report frightened the bird away, but, after making a turn or two, it again settled within a hundred yards of him, when he was prepared with a second shot, which dispatched it. It was observed to run with incredible swiftness, and at intervals to *pick up* something from the ground, and was so bold as to render it difficult to make it rise from the ground, in order to take a more secure aim on the wing. The note was not like any kind of Plovers, nor indeed to be compared with that of any known bird." The other specimen is mentioned by MONTAGU, as having been killed in Wales, and was afterwards in the collection of the late Professor SIBTHORP, of Oxford. Africa is the native region of this species, particularly the northern and western parts of that secluded country, where it inhabits the extensive plains of the desert. In Europe, even its appearance is of the rarest occurrence, as there are only two

* This specimen found its way into the Leverian Museum, at the sale of which it was purchased by FICHTEL, who afterwards disposed of it to DONOVAN for the sum of eighty-three guineas. It is now deposited in the British Museum.

other instances of its capture in this division of the world, viz. one in France, and the other in Austria. On this account the specific name of *Isabellinus*, given to it by MEYER, has been preferred to that of *Europæus*, so inadvertently imposed by LATHAM. Nothing is yet known respecting its particular habits, its food, or the propagation of the species.

PLATE 33 **. represents this bird of the natural size, from the specimen above alluded to.

Bill three quarters of an inch long, black, and arched towards the tip. Irides pale yellowish-grey. Forehead and crown of the head pale buff-orange, passing towards the occiput into ash-grey, below which backwards is a triangular spot of black. Over each eye, and passing round the hind part of the head (below the black spot), is a band of pure white. From the posterior angle of the eye is a streak of black. Throat and chin pale reddish-white. The whole of the body sienna-yellow, tinged with ash-grey, palest beneath. Greater quills brownish-black; outer tail-feathers having a small dusky spot near their tips. Legs long, with the tibiae naked for an inch above the tarsal joint. Toes short; the outer united to the middle toe by a rather broad membrane, the *inner* toe by a smaller one. Claw of the middle toe pectinated; a peculiarity belonging also to all the other species.

General
description.

GENUS VANELLUS, BRISS. LAPWING.

GENERIC CHARACTERS.

Bill shorter than the head, strait, slightly compressed; the points of both mandibles horny and hard, rather swollen and convex, the edges bent inwards; nasal groove wide, and reaching as far as the horny tip. The part of the culmen that divides the nostrils lower than the tip of the bill. Tomia of both mandibles, as far as the tip, equal.

Nostrils basal, lateral, linear, pierced in the membrane of the nasal groove.

Legs slender, with the lower part of the tibiæ naked; feet four-toed, three before and one behind, united at the base by a membrane; that portion of it between the outer and middle toe being the largest. Hind toe very short, articulated upon the tarsus, and not reaching to the ground. Tarsi reticulated; nails falcate; the inner edge of the middle one flattened and expanded.

Wings ample, tuberculated or spurred; the three first quill feathers notched, or suddenly narrowing towards their tips, and shorter than the fourth and fifth, which are the longest in each wing. Plumage thick, soft, rather open in texture, with more or less of a metallic gloss.

The members of this genus, of which the Crested Lapwing (*Vanellus cristatus*) may be considered the type, are nearly allied in the form of the bill, and in their habits, to the genera *Charadrius* and *Pluvianus*, but differ from them in having a small hind toe, which feature brings them into connexion with other four-toed groups of the order *Grallatores*. By LINNÆUS, LATHAM, and other authors, they were, on account of this hind toe, placed in the genus *Tringa*, to the members of which they only bear a distant alliance; their true affinity with the other groups of the *Charadriadæ* being distinctly shewn, both from their anatomy and habits. The Lapwings have the forepart or elbow of the wing armed with a spur; in some species short and blunt, in others long and pointed. The head is also generally furnished with peculiar appendages; in the European species, in the form of a long singularly shaped crest; in other species appearing as wattles, or fleshy protuberances, about the bill and eyes. They are the inhabitants of open ground and plains, particularly where the soil is of a moist nature; feeding on worms, insects, larvæ, &c. They are subject to the double moult; but their vernal change of plumage is not attended with any remarkable difference of colour.

CRESTED OR GREEN LAPWING.

VANELLUS CRISTATUS, Meyer.

PLATE XXXIV.

- Vanellus cristatus*, *Flem. Br. Anim.* 1. 111. sp. 160.
Vanellus gavia, *Steph. Shaw's Zool.* 11. 509. pl. 38.—*Leach*, *Cat. Br. Mus.* p. 29.
Tringa Vanellus, *Linn. Syst.* 1. 248. 2.—*Gmel. Syst.* 1. 670.—*Raii Syn.* 110. A. 1.—*Will.* 228. t. 57.—*Briss. Orn.* 5. 94. 1. t. 8. f. 1.—*Lath. Ind. Orn.* 2. 726. sp. 2.
Charadrius Vanellus, *Wagler, Syst. Av.* 1.
Le Vanneau, *Buff. Ois.* 8. 48. pl. 4.—*Id. Pl. Enl.* 242.
Vanneau huppé, *Temm. Man. d'Ornith.* 2. 550.
Gehäubte Kiebitz, *Bechst. Naturg. Deut.* 4. 346.
Lapwing, or *Bastard Plover*, *Penn. Br. Zool.* 2. 453. No. 190.—*Arct. Zool.* 2. 480. D.—*Will.* 307. pl. 57.—*Albin's Br. Birds*, 1. pl. 74.—*Lewin's Br. Birds*, 5. pl. 167.—*Pult. Cat. Dorset.* p. 15.—*Lath. Syn.* 5. 161.—*Bewick's Br. Birds*, Ed. 1826, 2. p. t. 79.—*Mont. Ornith. Dict.* 1.—*Loe's Faun. Orcad.* p. 84.
Crested Lapwing, *Shaw's Zool.* 11. 509. pl. 38.—*Flem. Br. Anim.* 1. 111. sp. 160.

By its common appellation of *Pewit*, this bird is well known throughout Britain, where it is very abundant during the summer or breeding season, and is then found in almost every situation, from the upland dry or marshy moors, to the pasture and fallow grounds of the lower districts. In these various localities, after making a slight depression in the ground, which it lines with a few broken straws or dry stalks of grass, it deposits *four* eggs, like most of the vermivorous *Grallatores*. They are of a deep oil-green colour, blotched and irregularly marked with brownish-black, and are brought in great numbers to the London market, where, as an article of luxury for the table, they always command a good price. On this account they are eagerly sought for in all the districts where these birds are numerous, and the open and extensive fields, as well as the rabbit warrens of Norfolk, with the fenny parts of Lincolnshire and Cambridge, furnish a principal part of the supply. The trade

of collecting them continues for about two months, and great expertness in the discovery of the nests is shewn by those accustomed to it; generally judging of their situation by the conduct of the female birds, who invariably, upon being disturbed, run from the eggs, and then fly near to the ground for a short distance, without uttering any alarm-cry. The males, on the contrary, are very clamorous, and fly round the intruder, endeavouring, by various instinctive arts, to divert his attention.—The young, when hatched, are covered with down of an ochreous yellow, mixed with brown: they are assiduously attended by the parents, who lead them to the softer parts of the soil, where food is more abundantly obtained. At this interesting period, when engaged in their parental duties, these birds must have attracted the attention of most persons, from the extreme anxiety they display, and the devices they practise, in order to draw off either man or dog from the vicinity of their callow brood. After the young are fully grown, and able to fly, they assemble in large flocks; gradually, as autumn approaches, deserting the interior of the country, and moving nearer to the coast. Here they chiefly frequent the fallow grounds and turnip fields, remaining (with allusion to the northern counties) till November, or even later, should the weather continue mild or open; but, in case of severe frost, most of them retire, and pass the rest of the winter farther to the southward. In Northumberland they re-appear, towards the end of February or the beginning of March, in small flocks; from which, having separated and paired, they spread themselves over the face of the country. At this season their flight (particularly that of the male birds) is very peculiar, being subject to a variety of evolutions, in the course of which they frequently dart perpendicularly upwards to a considerable height, then throwing a summerset, as it would seem, in the air, suddenly descend almost to the ground, along which they course with many turnings and great velocity, till the same manœuvre is repeated. These movements are attended by a loud hissing

noise of the wings, arising from their rapid motion, aided by the peculiar form of them, which offers a broken resistance to the air. During these aerial exercises, which are supported for a long time without intermission, they utter a variety of notes, very different in tone and expression from the monotonous cry of alarm, that has conferred on them their provincial appellation of Pewit, or *Pees-weep*. This species is very widely dispersed, being found throughout all the divisions of the ancient continent. Specimens that I have received from China are precisely similar to our own birds; they are in the winter plumage, and most of them seem to be the young of the year. In Holland the Lapwing is remarkably abundant. Its flesh, in autumn and winter, is juicy and sweet*, not yielding in flavour to that of the Golden Plover, or indeed to any of this tribe, but becomes, in the summer season, dry and unpalatable.—It feeds principally on earth-worms, in obtaining which it displays great ingenuity. “I have seen,” says Dr LATHAM, “this bird approach a worm-cast, turn it aside, and, after walking two or three times about it, by way of giving motion to the ground, the worm come out, and the watchful bird, seizing hold of it, draw it forth.” It also devours slugs, insects, larvæ, &c., on which account it is frequently kept in gardens; but, when thus domesticated, it requires to be fed and protected during the severity of winter, as it is, in such situations, unable to obtain a sufficient supply of its native food. An interesting anecdote, shewing the degree of domestication to which this bird may be brought, is related by BEWICK, but as the extract would be long, I must refer my

Food.

* On this account, as well as from their abundance, and their having so long a crest, or *aigrette*, I am led to think that the birds mentioned by LE-LAND, under the name of *Egrets*, as having been served up at the famous feast of Archbishop NEVIL, to the number of one thousand, were Lapwings, and not that species of Heron, now known under the title of the Little Egret, which, from the works of our earlier naturalists, appears to have been if not an unknown, at least a rare species in Britain.

readers to the original work. The plumage of the Lapwing is rich, and the colours well contrasted, and it is of very sprightly appearance. It runs swiftly, during which it has a singular habit of stopping suddenly at intervals, and putting its bill to the ground, but without picking up any thing, apparently to bring its body, as it were, to a proper equipoise.

PLATE 34. represents the male and female in summer plumage.

General
description.

Bill black. Forehead, crown, chin, and gorget, shining greenish-black. Occipital crest composed of long slender black feathers, turning slightly upwards. From the corners of the under mandible runs a black streak, passing under the eyes to the nape of the neck. Region of the eyes, nape, and sides of the neck, pure white. Back, scapulars, and tertials, pale glossy olive-green; the latter being tinged with purplish-red. Wing-coverts deep olive-green, glossed with blue and purplish red. Wings much rounded; the quills black, with the tips of the first four dirty white. Lower part of the back clove-brown, glossed with green. Upper tail coverts orange-brown; the lower ones paler. Tail having the basal half of the feathers white; the rest black, with white tips; except the outermost feather, which is entirely white. Belly and abdomen pure white. Legs brownish-purple red.

In winter the throat and chin are white; the feathers of the upper part of the plumage margined with reddish-white, and with less of the gloss, and reddish-purple tints. The young have the occipital crest very short; the face and neck white, speckled with brown; and the feathers of the back and scapulars more deeply margined with pale ochreous yellow. Legs and toes grey, with a pink tinge.

GENUS SQUATAROLA, CUV. BASTARD PLOVER*.

GENERIC CHARACTERS.

Bill rather strong, cylindrical, strait, nearly as long as the head; the tip, or horny part, about half the length of the whole bill, tumid, and arched, with the tomia bending inwards. Nasal groove wide; half the length of the bill. Mesorhinium depressed below the level of the tip. Nostrils longitudinally pierced in the membrane of the groove, linear oblong.

Wings rather long, acuminate; with the first quill-feather the longest.

Legs slender, of mean length, naked above the tarsal joint. Feet four-toed, three before and one behind; front toes joined at their base by a membrane, that portion of it between the outer and middle toe being the longest. Hind toe very small, or rudimental. Tarsi reticulated.

Plumage thick, close, and adpressed.

The Bastard Plover, like the Lapwings, was placed in the genus *Tringa* by some of the earliest systematists†, on account of its being furnished with a very minute hind toe. It was afterwards placed by TEMMINCK, BECHSTEIN, &c., with the Lapwings in the genus *Vanellus*, but as forming a separate section, on account of the different character exhibited in the form of the wings. Instead of adopting

* I have considered it most advisable not to let *generic* distinction (however necessary) interfere with the English name of *Plover*, so long attached to this species; as my ambition has been, in the letter-press of the present work, to construct a *popular manual* of British Ornithology.

† RAY and WILLOUGHBY, however, seem to have known its proper situation, having placed it between the Lapwing and Golden Plover, exactly where it now stands in the natural arrangement.

this sectional division, CUVIER and other naturalists made it the type of a genus, of which it was then supposed to be the only species; a second, however, has been since discovered in the southern hemisphere, specimens of which were brought by Captain P. P. KING, R. N., from the Straits of Magellan. This latter species has been figured in the "Illustrations of Ornithology," under the title of *Squatarola cincta*. In form and general appearance these birds are very similar to the true Plovers (or genus *Charadrius*), and, indeed, are only to be distinguished by a stronger bill, and by the small hind toe, which the Plovers totally want. This character brings them into direct contiguity with the Lapwings, and they thus hold an intermediate station, forming the connecting link between the genera *Vanellus* and *Charadrius*. Their manners are also very similar, and they subsist on the same food, viz. earth-worms, slugs, insects, and larvæ. They are subject to the double moult, and that of the European species, in almost every respect, resembles the analogous change in *Charadrius Pluvialis*; whilst that of the exotic species is very much like to *Charadrius Morinellus*. They inhabit the borders of rivers, plains, and marshy tracts, as well as the shores of the ocean, where they generally pass the greater portion of the winter. In Europe they are migratory, retiring in spring from the temperate parts to regions within the arctic circle to breed.

BASTARD OR GREY PLOVER.

SQUATAROLA CINEREA, Cuv.

PLATE XXXV. Figs. 1, 2.

- Squatarola cinerea*, Cuv. Reg. Anim. 1. 467.—*Leach*, Cat. Br. Mus. p. 29.
—*Shaw's Zool.* 11. 505.—*Flem.* Br. Anim. 1. 111. sp. 161.
Vanellus melanogaster, *Bechst.* Naturg. Deut. 4. 356.
Charadrius hypomelas, *Wagler*, Syst. Av. 1. sp. 43.
Vanneau Pluvier, *Temm.* Man. d'Ornith. 2. 547.—*Lesson*, Man. 2. 308.
Schwartzbauchiger Kiebitz, *Meyer*, Vog. Deutsch. 2. Heft 22.
Grey Squatarole, *Shaw's Zool.* 11. 505.—*Flem.* Br. Anim. 1. 111. sp. 161.
Grey Lapwing, *Rennie's* Ed. Mont. Ornith. Dict.
Tringa Squatarola, *Linn.* Syst. 1. 252. 23.—*Gmel.* Syst. 1. 682.—*Lath.*
Ind. Orn. 2. 729. sp. 11.
Vanellus griseus, *Brisson*. 5. 100. 2. t. 9. f. 1.
Pluvialis cinerea, *Rai* Syn. 111. A. 3.—*Will.* 22. pl. 57.
Vanneau Pluvier, *Buff.* Ois. 8. 68. Pl. Enl. 854.
Grey Plover, *Albin*. 1. t. 76.—*Will.* (Angl.) 309. t. 57.—*Bewick's* Br.
Birds, Ed. 1826, pl. t. 83.
Grey Sandpiper, *Br.* Zool. 2. 456. No. 191.—*Arct. Zool.* 2. 393.—*Lath.*
Syn. 5. 168. 11.—*Id.* Sup. 248.—*Lewin's* Br. Birds, 5. pl. 169.—*Walc.*
Syn. 146. pl. 2.—*Pull.* Cat. Dorset. 15.—*Mont.* Ornith. Dict. 2.—*Id.*
Sup. } Winter
Tringa Helvetica, *Linn.* Syst. 1. 250. 12.—*Gmel.* Syst. 1. 676.—*Lath.*
Ind. Orn. 2. 718. sp. 10. } plumage.
Vanellus Helveticus, *Brisson*. Orn. 5. 106. 4. t. 10. f. 1.
Charadrius hypomelas, *Pall.* Reise, 3. 699. No. 28.
Vanneau de Suisse, *Buff.* Ois. 8. 60.—*Id.* Pl. Enl. 853.
Swiss Sandpiper, *Penn.* Arct. Zool. 2. No. 396.—*Lath.* Syn. 5. 167. 10.—
Id. Sup. 248. } Summer
Tringa varia, *Linn.* Syst. 1. 252. 21.—*Gmel.* Syst. 1. 682. }
Vanellus varius, *Brisson*. 5. 103. t. 10. f. 1. } Young.
Vanneau varié, *Buff.* Pl. Enl. 923.

THE Grey Plover is not a numerous species in Britain, and, indeed, in many parts, its appearance seems almost limited to the period of its migrations, that is, when passing in autumn to its winter quarters, and in spring on its return to the colder regions of the north. In Northumberland there are a few stations on the coast, where it is found during the whole winter, but only in families or small flocks. It generally arrives about the middle of September (sometimes even earlier), at which time several of the old birds still retain a

part of their summer plumage, and the breast is seen beautifully spotted with black, and in which state it is also found in spring, when beginning to assume the nuptial dress. These feathers rapidly give place to others of a different colour, and early in October the winter plumage is completed. Since the study of natural history became so prevalent, ornithological specimens have acquired a proportionate value; and, in consequence, a keener look-out is now kept by the regular shooters of wild-fowl. To this must be attributed the supply of these birds sent from Norfolk, and other parts of the eastern coast, in the month of May, while on their passage to the north. At this season they have all commenced the change of plumage, and are killed in various stages of its progress, some few nearly in the perfect garb, and answering to the description of the *Tringa Helvetica* of authors. In its form and appearance, as well as in the disposition of its colours (in all its states of plumage), the present species very closely resembles the Golden Plover (*Charadrius Pluvialis*), and, except upon strict examination, may be very readily confounded with it. It is, however, rather superior in size, and in possessing a hind toe (or rather *claw*), as well as in the long *black* under coverts of the wings, furnishes constant and sufficient marks of distinction. Its bill, upon comparison, will also be found much stronger than either that of the Plover or Lapwing, approaching closely in form to that of the genus *Ædicnemus*. On our coast it is found in oozy bays, or at the mouths of rivers, where it

Food. feeds upon worms, marine insects, &c. It runs with agility, and utters a piping whistle, similar to, but not quite so shrill as, that of the Golden Plover. Its flesh is tender and well flavoured, and in high esteem for the table. The species is widely distributed, being found throughout the temperate and colder parts of all the northern hemisphere, in Europe. it is common in Russia; also in France and Switzerland during the times of its migrations; upon the coasts of Holland it is a regular periodical visitant, and, according to

TEMMINCK, a few annually breed upon the northern islands of that kingdom*. It is met with in Egypt, and upon the confines of Asia, in Siberia, &c. The only nest it makes is Nest, &c. a small depression in the ground, lined with a few straws or stems of grass; in which it lays four eggs, of an oil-green colour, blotched and spotted with black.

PLATE 35. Fig. 1. represents the bird in the summer plumage.

Forehead, eye-streak, and orbits white. Space between the bill and eyes, cheeks, sides and fore part of neck, breast, flanks, and belly, deep black. Abdomen, vent, and thighs, white. Lateral under tail-coverts with oblique black bars. Crown of the head hair-brown, with the shafts of the feathers black. Hind part of the neck a mixture of pale hair-brown and white. Back-scapulars and wing-coverts black; the feathers being tipped and barred with white and yellowish-white. Quills having part of the inner web and the shafts white. Axillary feathers black. Tail-coverts white, barred with hair-brown. Tail the same, except the outer feather on each side, which is nearly white. Bill black. Legs and toes blackish-grey.

Fig. 2. in the winter plumage.

Chin white. Neck, breast, and flanks white, marbled with pale ash-grey and hair-brown. Belly and abdomen white. Head, back part of the neck, and the whole of the upper parts of the body hair-brown, having the shaft of each feather darker, and being margined and spotted with greyish-white, or pale ash-grey. Under wing-coverts, or axillary feathers, black.

* I have occasionally met with one or two of these birds upon the Fern Islands in June, but could never detect any of their young. These individuals, probably from some accidental cause, had been unequal to the usual migration.

Young The young of the year differ from the adults in having the feathers of the upper parts of the body spotted with yellow and yellowish-white, sometimes approaching very nearly in colour to *Charadrius Pluvialis*.

GENUS CHARADRIUS, LIN. PLOVER.

GENERIC CHARACTERS.

Bill strait, compressed, shorter than the head; the anterior portion of each mandible horny and hard; that of the upper one slightly arched, and rounded underneath; of the under one gently ascending. Lateral furrow extending to two-thirds of the length of the bill.

Nostrils basal, lateral, linear, longitudinally cleft in the large membrane of the nasal furrow.

Wings of mean length, narrow, acuminate, with the first quill-feather the longest.

Legs rather long, or of mean length, slender, naked above the tarsal joint. Tarsi reticulated. Feet three-toed; all the toes directed forwards, rather short; the outer toe united to the middle one by a short membrane.

Tail in gradations, from nearly a square end in some species, to a very wedge-shaped form in others.

Plumage thick, close, and adpressed.

The members of this genus (which may be considered the typical form of the *Charadriadæ*) are numerous, and possess a very wide geographical distribution, species being found in every quarter of the globe. Some of them, during the greater part of the year, are the inhabitants of open districts, and of wild wastes, frequenting both dry and moist situations, and only retire towards the coast during the severity of winter. Others are constantly resident upon the banks or about the mouths of rivers, particularly where the

shore consists of small gravel or shingle; such are most of the smaller species. Except during the season of reproduction, most of them live in societies, larger or of less amount, according to the species. Their migrations are also performed in numerous bodies, the old birds usually congregating by themselves, and preceding the young in their periodical flights. They run with much swiftness, as might be expected from the simple structure of their feet; and from the shape and dimensions of their wings, they fly with strength and rapidity. They live on worms, insects, and their larvæ, &c., and most of them are nocturnal feeders, as indicated by their large and prominent eyes. They are subject to the double moult, and the change at the different seasons is in many species very marked. Their nest is on the ground, and their eggs are always four in number. The flesh of the larger species, and such as inhabit the plains of the interior, is delicate and high flavoured; but in many of the smaller kinds that live on the coast, or on the banks of rivers, it is not so palatable.

GOLDEN PLOVER.

CHARADRIUS PLUVIALIS, Linn.

PLATE XXXVII.

- Charadrius Pluvialis*, Linn. Syst. 1. 254. 7.—Gmel. Syst. 1. 688.—Lath. Ind. Orn. 2. 740. sp. 1. var. B.—Briss. Orn. 5. 43. 1. t. 4. f. 1.—Shaw's Zool. 11. 464. pl. 34.—Flem. Br. Anim. 1. 113. sp. 163.
Pluvialis viridis, Rati Syn. 111. A. 2.—Will. 289. t. 57.
Le Pluvier doré, Buff. Ois. 8. 81.—Id. Pl. Enl. 904.—Temm. Man. d'Ornith. 2. 535.
 Goldregen Pfeifer, Bechst. Naturg. Deut. 4. 395.—Meyer, Tasschenb. Deut. 2. 318.
 Golden Plover, Br. Zool. 2. 474. No. 208.—Arct. Zool. 2. 399.—Will. (Angl.) 308.—Lath. Syn. 5. 193. 1.—Id. Sup. 252.—Mont. Ornith. Dict. Id. Sup.—Bewick's Br. Birds, Ed. 1826. p. t. 367.—Pult. Cat. Dorset, 16.
 Green Plover, Low's Faun. Orcad. 88.—Flem. Br. Anim. 2. 113, sp. 163.
Charadrius Africanus, Linn. Syst. 254. 6.—Gmel. Syst. 1. 687.—Lath. Ind. Ornith. 2. 742. sp. 5. but not all the synonyms.—Shaw's Zool. 11. 466, but not Wilson's Synonyms.
 Alwargrim Plover, Penn. Arct. Zool. 2. 398.—Lath. Syn. 5. 198. 5.—Shaw's Zool. 11. 466. } Summer plumage.
 PROVINCIAL.—Grey Plover, Whistling Plover, Black-bellied Plover.

THE present species has a wide geographical range, though not, I imagine, to the extent supposed by many naturalists; the birds which have been considered by them as belonging to this species being of a different one, viz. the *Charadrius Marmoratus* of WAGLER, which, though nearly allied to, and greatly resembling, *Char. Pluvialis* in general appearance, yet possess certain and permanent distinctions in colour of plumage, size, &c. Among these, I may mention, as a test of contradistinction, the colour of the under surface of the wings, and of the long axillary feathers, which, in the exotic species, are of an uniform cinereous or pale hair-brown colour; whereas, in all specimens of *C. Pluvialis*, they are pure white. Instead, therefore, of extending the range of the species now before us to America, New Holland, and other parts of the southern hemisphere, I feel inclined to limit it to Europe, Northern Asia, and some few districts in the North of Africa. Although it may be accounted indigenous in Britain, being found in parts of the kingdom through the whole year, it is nevertheless subject to the laws of migration, even within these confines. Thus, as autumn approaches, and after the young have acquired maturity, large flocks are formed, which gradually leave the upland and mountainous districts, and come down to the lower lands and to the coast. Some of these bodies pass onwards to spend the winter on the open downs that overlook the sea in the southern counties, where this bird can only be regarded as a winter visitant, since it does not appear that it breeds much to the south of a boundary formed by the river Tyne. Towards the end of March, or the beginning of April, when the impulse of nature excites them, the flocks, which during the autumn and winter had remained united, begin to separate into smaller parties, and retire to the uncultivated grounds of the northern counties of England, and to the Highlands of Scotland, where they break into pairs and prepare to breed. At this period the vernal moult commences, and a remarkable change of plumage is soon perceptible, the birds being fully clad in

their nuptial garb by the end of May. In this state, the Golden Plover has been described as a distinct species, under the title of *Charadrius Apricarius*, a synonym also applied by ornithologists, in some instances, to the exotic species which I have before mentioned as having been confounded with the present one. Some of our naturalists indeed seem, at this day, to be either not aware or not convinced of the change that annually takes place in the appearance of our species, for Mr STEPHENS, the continuator of Dr SHAW's General Zoology, under the head of *Charadrius Apricarius* (Alwargrim Plover), says, "This, which TEMMINCK asserts to be the summer plumage of *Charadrius Pluvialis*, I am induced to consider distinct, as I have never seen a specimen that was captured in England, where the Golden Plover is very common, and has been observed at all seasons." That Mr STEPHENS should not have met with it in this state in the south of England, is only what might be expected, as these birds quit their winter haunts before the change commences; but that he should never have seen a British-killed specimen under this change, is certainly extraordinary, as many collections must at the time have possessed such; and I may add, that previous to the publication of Mr STEPHENS's eleventh volume, I was in the habit of sending this bird, in its summer dress, to various friends and correspondents, having, from my peculiar situation, opportunities of obtaining it in all its stages of change.—About the end of May or beginning of June, the females begin to lay, making but little artificial nest, a small depression in the ground amidst the heath being generally taken advantage of, and lined with a few dry fibres and stems of grass. The eggs are four in number, rather larger than those of the Lapwing, of a cream-yellow, inclining to oil-green, with large irregular confluent blotches or spots of deep umber-brown. The young, when excluded, are covered with a beautiful parti-coloured down of bright king's-yellow and brown: they quit the nest as soon as hatched, and follow their parents Nest, &c.

till able to fly and support themselves, which is in the course of a month or five weeks. The old birds display great anxiety in protecting their young brood, using various stratagems to divert the attention of an enemy; among others, that of tumbling over, as if unable to fly, or feigning lameness, is the most frequent, and appears indeed to be the instinctive resort of those birds that construct the nest and rear their young on the ground. When aware of an intruder near, the female invariably runs to some distance from her nest before she takes wing, a manœuvre tending to conceal its true situation; and the discovery of it is rendered still more difficult by the colour and markings of the eggs assimilating so closely to that of the ground and surrounding herbage. The usual call-note of the Plover is a plaintive monotonous whistle, by imitating which it may frequently be enticed within a very short distance. In the breeding season a more varied call is used, during which it flies at a great elevation, and continues soaring round for a considerable time. Towards the end of August these birds begin to leave the moors (having then congregated in large flocks), and descend to the fallows and the newly sown wheat-fields, where an abundance of their favourite food can be readily obtained. At this season they soon become very fat, and are excellent at the table, their flesh being not inferior in flavour to that of the Woodcock, or any of our most esteemed sorts of game. In these haunts they continue till severe weather approaches, when they either move nearer to the coast or migrate to the southern parts of the kingdom. They fly with strength and swiftness, and if disturbed, when in large flocks, generally perform many aerial evolutions and rapid wheelings before they again settle on the ground. The Golden Plover is a nocturnal feeder, and, during the day, is commonly seen squatted upon the ground or standing asleep, with the head drawn down between the shoulders. Its food consists of

Food.

I have, upon dissection, found in their stomachs and gullet during the summer season. It runs very fast, and when wounded is difficult to be caught without the aid of a dog.— Upon the continent these birds are abundant during the time of their migrations, as in Holland, parts of France, Germany, &c. In Sardinia they winter in immense flocks, as well as in other countries of the south of Europe, retiring in the summer to high northern latitudes of Asia and Europe to breed.

PLATE 37. Shows the Golden Plover of the natural size, in both the winter and summer plumage.

Crown of the head, hind part of the neck, back, wing-coverts, and scapulars, brownish-black, or very deep hair-brown, each feather having triangular marginal spots, and the tip of king's-yellow. Tail deep hair-brown, with oblique bars of pale king's yellow. Quills hair-brown, with the anterior part of the shafts of the first five white. Forehead, cheeks, and eye-streak yellowish-white, streaked and spotted with pale hair-brown and grey. Chin and throat white. Fore part of the neck, breast, sides, and flanks ash-grey, tinged in parts with king's yellow, and spotted and streaked with darker grey. Belly, abdomen, and under tail-coverts, white. Long axillary feathers beneath the wings pure white. Legs and toes deep grey.

General
descrip-
tion.
Winter
plumage.

During the breeding season the cheeks, chin, throat, auriculars, fore part of the neck, list down the centre of the breast, belly, and abdomen are of an intense black. Forehead, eye-streak, and the marginal line bordering the black upon the neck and breast, pure white. Sides of the breast marbled with king's-yellow and black. Sides and flanks white, marbled with pale hair-brown and yellow. Under tail-coverts white, the lateral ones being tinged with yellow and obliquely barred with hair-brown. Upper parts of the body having the black more

Summer
plumage.

intense in colour, but similar in markings to the winter plumage. In the female, the black of the under parts and about the head, during the breeding season, is generally marbled with white, and not so intense as in the male bird. In spring, when acquiring, and again in July when loosing, the nuptial dress, it is found with the black or white predominating according to the advance it may have made in each respective change.

DOTTEREL.

CHARADRIUS MORINELLUS, Linn.

PLATE XXXIX. FIGS. 1. and 2.

- Charadrius Morinellus*, Linn. Syst. 1. 254. 5.—Gmel. Syst. 1. 686.—Lath. Ind. Orn. 3. 746. sp. 17.—Shaw's Zool. 11. 468.—Flem. Br. Anim. 1. 113. sp. 164.—Bris. 5. 54. 5. t. 4. f. 2.—Raii Syn. 111. A. 4.—Wagler, Syst. Av. sp. 38.
Charadrius Tataricus, Lath. Ind. Orn. 2. 746. sp. 15.
Charadrius Sibiricus, Gmel. Syst. 1. 690.—Lath. Ind. Orn. 2. 747. sp. 19.
 Le Pluvier Guignard, Buff. Ois. 8. 87.—Id. Pl. Enl. 332.—Temm. Man. d'Ornith. 2. 537.
 Der Dümme Regenpfeifer, Bechst. Naturg. Deut. 4. 406.
 Dotterel, Br. Zool. 2. 477. No. 210.—Arct. Zool. 2. 487. A.—Will. (Angl.) 309.—Albin's Br. Birds, 2. t. 62.—Lath. Syn. 5. 208. 14.—Bewick's Br. Birds, Ed. 1826. 1. p. t. 269.—Mont. Orn. Dict. 1.—Id. Sup.—Flem. Br. Anim. 1. 113. sp. 164.—Rennie's Mont. Orn. Dict. 137.
 Dotterel Plover, Shaw's Zool. 11. 468.

Periodical
visitant.

THE Dotterel can only be reckoned a cursory visitant at the two periods of its migrating flights, viz. in spring, during the months of April and May, when on its way to higher latitudes for the breeding season, and again in September and October, on its return to its winter quarters in the warmer parts of Europe and Asia. By some writers, however, it has been supposed, that a part of the birds which visit Britain in spring remain to breed upon the moors of the northern counties of England, and in the Highlands of Scotland. Amongst others, MONTAGU and Dr FLEMING seem to favour this opinion; the former of whom, in his Ornitho-

logical Dictionary, after stating the probability of the fact, observes, that he once saw Dotterels in Scotland sufficiently late to induce him to entertain such an idea, and further adds, that Col. THORNTON informed him of his having seen Dotterels in *pairs* upon the Grampian Hills; but, unfortunately, in neither of these cases is the precise time of year mentioned. Dr FLEMING, in his History of British Animals, cites a passage from the Statistical Account of the parish of Carmylie, in favour of the above supposition; but the paragraph is too generally worded to establish as a *fact*, the residence and breeding of these birds upon the Grampian Mountains. In Northumberland (where considerable flocks annually appear in certain haunts near the coast in the month of May, and where their visit seldom extends beyond a week or ten days), I have, during summer, examined all the upland moors, and the range of the Cheviot Hills, these being the situations to which they would naturally retire, if any remained, to breed, but always without success; nor did the bird appear to be known to the shepherds or other inhabitants of these districts. The same may be said of the moors of Cumberland, and the south-western parts of Scotland, where, indeed, it is of very rare occurrence, even during its periodical flight; the line of migration of the passing bodies that visit us in spring being along the eastern coasts of the island. I may also add, that in various excursions to the Highlands of Scotland, I never met with the Dotterel in the summer or breeding season, though its congener the Golden Plover was frequently seen; nor has any instance occurred of the nest, eggs, or immature young of this bird having been yet found. It is seen, on its return from its breeding quarters, in particular haunts during the months of September and October, generally in families of five or six together, being the old birds and their brood; occasionally, however, earlier appearance may happen, as in the case of the bird mentioned by Col. THORNTON in his Sporting Tour, which he killed in Scotland on the 16th of August; and a Dotterel, apparently

a bird of the year, once fell before my own gun when shooting Grouse on the 20th of August. These, in all probability, were birds of early hatchings, which appear frequently to precede the main bodies of their species in the equatorial migration, as I have previously remarked in the history of the Sanderling. The Dotterel has always been considered a *stupid* bird, but for what reason I cannot conceive. I allow, that on its first arrival, it shews but little fear of man, but this, I apprehend, arises more from inexperience of persecution in its native wilds, than from any other cause, and which appears evident from the birds, when harassed and repeatedly fired at, soon becoming too cautious to admit of near approach any longer. Their habits also contribute to render them unwary, for being nocturnal feeders (like many others of the *Charadriadæ*), they are at rest and asleep during the greater part of the day, in which state also the Golden Plover (a wary bird when roused) will frequently admit of a close approach. As to the story of the Dotterel mimicking the actions of the fowler, by stretching out its leg, wing, or head, when he sets the example, it, without doubt, arose from the motions that they, as well as other birds, usually and most naturally make when roused from a state of repose; and which every one who attends to the habits of the feathered race must (in flocks of Gulls, Plovers, Tringas, &c.) have frequently observed. The Dotterel is particularly abundant in northern Asia and the eastern parts of Europe. It inhabits Siberia, and the vast steppes of Tartary, frequently living in the vicinity of the salt lakes and marshes of that open region. It is also found, during its winter migration, in Italy and Spain. The great body of these birds retires to the high latitudes of Northern Asia, Russia, and Lapland Alps to breed; but the flocks which pass along the eastern coast of our island are supposed to limit their flight to the upland districts and mountains of Sweden and Norway.—The nest and eggs of the Dotterel have hitherto remained undescribed.

During its short abode with us, which is only in particular districts, it haunts fallow and newly sown corn-fields, as well as moors and open downs. In the neighbourhood of Cambridge and Royston, it is killed during its vernal passage in considerable numbers; its flesh, which is sweet and of delicate flavour, being highly prized for the table. In Northumberland, it frequents some few places along the coast, and in North Durham, about Scrimmerston and Unthank (four miles south of Berwick), it annually appears in large flocks. Its food, like that of the Golden Plover, consists of worms, slugs, insects, and their larvæ.

PLATE 39. Fig. 1. Represents the male bird in summer plumage.

Crown of the head deep clove-brown, each feather being finely margined with white. Over each eye is a broad streak of white, which meet behind, at the nape of the neck. Cheeks, chin, and throat white. Lower part of the neck, and upper part of the breast, pale hair-brown, tinged with grey. Pectoral fascia consisting of a streak of black and a broader one of white. Lower part of the breast and belly orange-brown. Abdomen black. Vent and under tail-coverts reddish-white. Upper parts of the body pale hair-brown, tinged with ash-grey, the feathers being margined with pale orange-brown. Tail slightly wedge-shaped, having the two middle feathers of a uniform pale hair-brown, the rest on each side with white tips, and the outmost, with its outer web, also white. Quills deep hair-brown, the shaft of the first being white, very thick and strong. Legs and toes yellowish-brown. Bill dusky.

General
description.
Summer
plumage.

In the female, the pectoral band is not so distinct; the orange-brown upon the breast much paler, and tinged with grey, and the abdomen mixed with white feathers.

Fig. 2. Is taken from a female bird after the autumnal moult.

Forehead white, streaked with brown. Crown of the head

Winter
plumage.

brownish-black, the feathers being edged with pale reddish-brown. Eye-streak, cheeks, and throat reddish-white, with a few specks and lines of brown. Neck ash-grey, tinged with pale orange-brown. Breast ash-grey marbled and tinged with pale reddish-brown, and shewing an imperfect greyish-white fascia. Belly and abdomen white, dashed with pale orange-brown. Under tail-coverts reddish-white. Upper parts hair-brown, tinged with grey, each feather being deeply edged with pale orange-brown. Tail deep hair-brown, the two middle feathers being margined, near their tips, with reddish-white, the rest having large white tips, the outermost feather (as in the summer plumage), with its outer web white.

RINGED PLOVER.

CHARADRIUS HIATICULA, Linn.

PLATE XXXVIII. FIGS. 1, 2.

- Charadrius Hiaticula*, Linn. Syst. 1. 253. 1.—*Gmel. Syst.* 1. 683.—*Lath. Ind. Orn.* 2. 743, sp. 8. but not the Pl. Enl. 921. of Buffon, and neither of the varieties B. and Y.—*Steph. Shaw's Zool.* 11. 470.—*Flem. Br. Anim.* 1. 113. sp. 165.—*Wagler's Syst. Av.* 1. sp. 21.
Pluvialis torquata minor, Briss. Orn. 5. 63. 8. t. 5. f. 2.
Pluvier à collier, Buff. Ois. 8. 90.—*Id. Pl. Enl.* 920.
Grand Pluvier à collier, Temm. Man. d'Ornith. 2. 539.
Buntschnabliger regenpfeifer, Bechst. Naturg. Deut. 4. 414.
Halsband regenpfeifer, Meyer, Tasschenb. Deut. 1. Heft 15.
Sea Lark, Albin's Br. Birds, 1. t. 80.—*Will. (Angl.)* 310. t. 37.
Ringed Plover, Br. Zool. 2. No. 211.—*Arct. Zool.* 2. 401.—*Lath. Syn.* 5. 201. 8.—*Lewin's Br. Birds*, 5. pl. 184.—*Pult. Cat. Dorset.* p. 16.—*Mont. Ornith. Dict.* 2. and Sup.—*Bewick's Br. Birds*, 1. t. p. 345.—*Id. ed. 1826*, 1. t. p. 371.—*Shaw's Zool.* 11. 470.—*Flem. Br. Anim.* 1. 113. sp. 165.
Dulwilly, Rennie's ed. Mont. Ornith. Dict. p. 141.

PROVINCIAL.—Ring Dotterel, Sand Lark, Sea Lavrock, Sandy Lavrock, Sandy Loo.

THIS small and prettily marked Plover is an indigenous species, and is found throughout the year upon all the coasts of Britain, though BEWICK, in his History of British Birds, has inadvertently stated it to be migratory in the northern counties, and only known as a summer resident. This asser-

tion long experience enables me decidedly to contradict, as these birds are met with in even greater abundance upon the Northumbrian coast during the winter, than in the summer or breeding season, when some of them retire inland to the banks of rivers, and to the pebbly margins of lakes. They particularly frequent bays, creeks, and the mouths of rivers, where the shore is composed of gravel, and during winter collect in small flocks, which generally keep themselves separate from the Purres and other Tringas, although they may occasionally be seen joining them in their wheeling flights. They run with nearly as much swiftness as the Sanderling, and in this action (as is also seen in the other Plovers and Cursorial birds) the neck is shortened, and the head thrown well back between the shoulders. Early in May they begin to pair, and to look out for an appropriate situation for rearing the forthcoming brood. This situation is usually found amongst the gravel, near the high-water mark; sometimes also on the links or sand-hills that line the coast, or even in a corn-field, if immediately adjoining the shore. A few, as I have before observed, retire inland for this purpose, where they take up their residence on the margins of rivers. Little artificial nest is made; a slight hollow, lined with a few stems of dry grass, sufficing to receive the four eggs, which are of cream-yellow, tinged with grey, covered all over with variously-sized spots of blackish-brown, with others of a lighter shade appearing beneath the outer shell, and in size nearly equal to those of the Common Sandpiper (*Totanus Hypoleucos*). The old birds display great anxiety about their young, and, like the Golden Plover, use various stratagems (such as feigning a crippled state, or tumbling over as if unable to fly), with the view of enticing a dog, or any suspected enemy, from the vicinity of their brood. On wing these birds are strong, and fly with rapidity, but seldom to any great distance, unless repeatedly disturbed; generally, after a short circuit, alighting upon the sand or gravel not far from the spot whence they last rose. Upon the sea-coast

Nest, &c.

Food. they feed on small marine insects, worms, and crustacea; and, when frequenting the edges of rivers and lakes, on aquatic insects, both as larvæ and in the perfect state. The Ringed Plover is widely distributed over Europe, inhabiting the northern parts as far as Iceland. In Holland it abounds; also upon the coasts of France, Italy, &c. It is met with in parts of Africa, and the species found in North America seems to be in every respect similar. Its note is a rather soft plaintive whistle, frequently repeated when on wing, or when running on the shore. This bird appears to have been often confounded by preceding authors with the *Charadrius minor* of TEMMINCK, and also with the *Charadrius Cantianus* of LATHAM; which latter ranks as a British species, and is occasionally found upon the southern coast. The former has not yet been met with in Britain. The Ringed Plover is subject to the double moult, but the change is only shewn by the greater intensity of the black, and the more perfect purity of the white parts of the plumage.

PLATE 38. Fig. 1. Represents the adult male in summer plumage.

General
description.

Summer
plumage.

Base of the upper mandible, space between it and the eyes, and the ear-coverts, black. Forehead white; behind which a band of black passes over the crown of the head from eye to eye. Over the eye a streak of white passes backwards towards the nape of the neck. Chin, throat, and collar, white. Lower part of the neck, and upper part of the breast, having a broad gorget of intense black, passing backwards and forming a second collar. Under parts pure white. Back part of the head, nape of the neck, and the whole of the upper parts, pale hair-brown, with a cinereous tinge. Quills deep hair-brown, with the basal part of the outer webs of the secondaries white. Greater wing-coverts having white tips. Tail, with the two middle-feathers, hair-brown, the rest having white tips, except the outer feather,

which is white, with a black spot in the centre of the inner web. Legs and toes gallstone yellow. Bill orange at the base, with the tip black. Irides brown. The female is similar to the male bird, except that the black collar and coronal band are not so intense in colour.

Fig. 2. The young of the year, killed in October.

Upper mandible brown at the base; under one pale orange-yellow. From the base of the bill to the eye is a dusky streak. Forehead dirty white. Crown of the head hair-brown, and without the black band that distinguishes the adult. Throat, and ring round the neck, white, tinged with yellow. Gorget wood-brown. Back and wing-coverts pale hair-brown, tinged with grey, the tips and sides of the feathers finely margined with sullied white. Under parts white. Tail as in the adult bird. Legs and toes wax-yellow.

Winter
plumage.

KENTISH PLOVER.

CHARADRIUS CANTIANUS, Lath.

PLATE XXXVIII. FIG. 3.

- Charadrius cantianus*, Lath. Ind. Orn. Sup. 66. 1.—*Temm.* Man. d'Ornith. 2. 544.—*Steph.* Shaw's Zool. 11. 474.
Charadrius Alexandrinus, Hassel. H. 255. 30.
Charadrius albifrons, Meyer, Tasschenb. Deut. 2. 323. sp. 5.—*Wagler*, Syst. Av. 1. sp. 32.
Charadrius littoralis, Bechst. Naturg. Deut. 4. 430. t. 23. f. 1. and 2.
Pluvier à collier interrompu, *Temm.* Man. d'Ornith. 2. 544.
Kentish Plover, *Levin's* Br. Birds, t. 185.—*Lath.* Syn. Sup. 2. 316. 3.—*Mont.* Ornith. Dict. Sup.—*Shaw's* Zool. 11. 474.

THIS species, which is rather inferior even in size to the preceding one, was first named by Dr LATHAM, in the Supplement to the "Index Ornithologicus," and was described by him at greater length in the second supplementary vo-

lume of his "General Synopsis," from three specimens sent to him by Mr Boys of Sandwich, of which one was killed in May 1787, the others in April 1791. Since that time we have other instances of its capture, amongst which may be particularly noticed two young birds of the year, killed upon the Norfolk coast in 1827, and recorded by WILLIAM YARRELL, Esq. in the third volume of the Zoological Journal, where he has, with his accustomed perspicuity, minutely pointed out the characters that distinguish the present species at this age from the young of *Charadrius Hiaticula*. Of this latter MONTAGU was inclined to consider it only a variety, as may be gathered from the contents of his paper, published in the seventh volume of the Linnean Transactions, and afterwards transcribed into the Supplement to the Ornithological Dictionary, under the head of "Ringed Plover." Such an opinion, however, I feel confident, could only have arisen from his never having seen a specimen of the Kentish Plover, as, upon examination and comparison with *C. Hiaticula*, so accurate an observer and intelligent a naturalist must have been at once convinced that they were, though nearly allied, yet perfectly distinct species *. As to the *Charadrius Alexandrinus* of authors, which was also considered by him to be *C. Hiaticula* in its adolescent state, from being unable to refer it to any other species within his knowledge, I agree with TEMMINCK and WAGLER, that it ought to be expunged from the list of birds, being merely a nominal species, founded upon citations from other authors; and referring not only to the present bird, but also to *Charadrius minor* of TEMMINCK (*Char. Curonicus* of LATHAM'S Index, Ornith.), another species of Ringed Plover, very similar in its markings, but inferior in size to *C. Hiaticula*;

* On referring to Dr RENNIE'S late edition of MONTAGU'S Dictionary, I was surprised to find that the *Kentish Plover* is considered by him also as "a variety of the Ringed Plover." I must therefore suppose that he also has never seen the former bird, or at least had the opportunity of comparing it with the latter.

common in Germany and the southern parts of Europe, but hitherto unrecorded as a British species. TEMMINCK states the Kentish Plover to be very abundant in Holland; in England it is comparatively of rare occurrence, and its appearance has been hitherto confined to the eastern shores of the island. It is also found in Egypt, Nubia, and Tartary. Its manners are similar to those of the Ringed Plover, and it is a constant resident upon sea-coasts.—It breeds upon the Nest, &c. gravelly beach above the usual reach of high water, using any small depression as a receptacle for its four eggs, which are smaller than those of the preceding species, but alike in colour*. Its food consists of small marine scarabæi, and Food. other insects, worms, and diminutive bivalve shell-fish.

PLATE 38. Fig. 3. Represents the adult bird, from a specimen in the collection of Sir WILLIAM JARDINE, Bart.

Bill and legs black. Forehead and streak over the eyes white. Behind the forehead is an angular spot or band of black. Space between the bill and eyes, and the ear-coverts, black. Crown of the head and nape of the neck deep yellowish-brown, tinged with ash-grey. On each side of the breast is a large patch of brownish-black. Under parts, and imperfect ring round the neck, pure white. Upper parts pale wood-brown, with a greyish tinge. Quills hair-brown, with the shafts of the primary ones white. Tail having the four central feathers hair-brown, the three outer ones yellowish-white.

General
descrip-
tion.
Adult
bird.

* From a notice by Mr GEORGE CLAYTON of Rochester, in the 23d Number of the Magazine of Natural History, it appears highly probable that the *Char. Cantianus* breeds annually upon the Kentish coast; for he says, "I first met with these birds in Pegwell Bay, and on the Sandwich Flats in May 1830. They were then in pairs, and probably breed in the banks of shells which abound there." From his having shot seven of them in one day, they seem to have been rather numerous, and have in all likelihood hitherto escaped detection, from the similarity of their appearance and habits to the Ringed Plover.

Young. In the young state previous to the moult, there is no black about the head. Forehead and eyebrow white. Front of the neck the same. Crown of the head, back part of the neck, and all the upper parts of the body, light ash-brown. Patch on each side of the chest light hair-brown. Under parts white. Bill and legs black.

GENUS HIMANTOPUS, *BRISS.* STILT.

GENERIC CHARACTERS.

BILL longer than the head, slender, cylindrical, drawn to a fine point, slightly inflected towards the middle. Mandibles with a lateral groove, extending through one-half of their length; tomia of both mandibles anterior to the furrow, intracted; tip of the upper mandible slightly curving over that of the under one. Nostrils lateral, long, and linear.

Wings long, with the first quill-feather much longer than the rest.

Legs very long and slender. Tibiæ naked for the greatest part of their length above the tarsal joint. Tarsi thin and laterally compressed, reticulated. Feet three-toed, all the toes directed forwards; the outer toe united to the middle one by a large membrane; the inner toe by a much smaller membrane. Claws short, slightly curved, and having the inner edges expanded.

Plumage soft, close, and adpressed.

The members of this genus, remarkable for the disproportionate length and the slenderness of their legs, are not numerous, but possess a very wide geographical range, some one of the species being found in every quarter of the globe. By the earlier authors, when only one species was recognised, it was placed amongst the typical Plovers. It was very pro-

perly, however, detached by BRISSON, and obtained from him the generic name of *Himantopus*, which has been generally adopted by subsequent ornithologists. Its affinity to the Plovers is shewn in the form of its feet; and the passage to the genus *Charadrius* is effected through the interposition of some of the longer-limbed species, and by the members of the genus *Pluvianus*. It also connects the present family with certain groups of the *Scolopacidae*, as it shews an evident affinity, both in form and manners, to the Avosets (genus *Recurvirostra*); amongst which, indeed, WILSON was led to place the North American species, from the great similarity observed by that acute inquirer in their respective habits. The present birds inhabit the shores of the ocean, as well as of interior saline and fresh-water lakes, feeding upon worms, insects, larvæ, &c. which are obtained in the muddy shallows of the waters they frequent. Their moult is presumed by TEMMINCK to be double; for the fact does not appear to be established by actual observation.

BLACK-WINGED STILT.

HIMANTOPUS MELANOPTERUS, Meyer.

PLATE XXXIX. *

Himantopus melanopterus, Temm. Man. d'Ornith. 2. 523.—Horsf. Trans. Linn. Soc. 13. 194.—Shaw's Zool. 12. 179.—Rennie's Mont. Orn. Dict. p. 496.

Himantopus rufipes, Bechst. Naturg. Deut. 4. 446. t. 25. f. 1.

Himantopus atropterus, Meyer, Tasschenb. Deut. ? 315.

Himantopus, Briss. 5. 33. t. 3. f. 1.—Raii Syn. 106. 9.—Will. 219. t. 54.

Charadrius Himantopus, Linn. Syst. 1. 255. 11.—Gmel. Syst. 1. 690.—Lath.

Ind. Ornith. 2. 2. 741. sp. 3.

L'Echasse, Buff. Ois. 8. 114. pl. 8.—Id. Pl. Enl. 878.—Cuv. Reg. Anim. 1. 496.

L'Echasse à Manteau noir, Temm. Man. d'Ornith. 2. 523.—Lesson, Man. d'Ornith. 2. 340.

Schwarzflügelige Strandreuter, Meyer, Vög. Deutsch. 5. 2. Heft 21.

Long-legged Plover, Penn. Br. Zool. 2. No. 209.—Arct. Zool. 2. No. 405.

—Lath. Syn. 5. 195. 3.—Id. Sup. 252.—White's Hist. Selb. p. 358.—

Levin's Br. Birds, 3. pl. 182.—Bewick's Br. Birds, ed. 1826. 1. t. pl. 365.

—Shaw's Zool. sect. 1. pl. 80.

Black-winged Longshank, Steph. Shaw's Zool. 12. 180.

Stilt, Rennie's Mont. Orn. Dict. p. 496.

Occasional
visitant.

THIS bird, of such singular appearance, from the great length of its legs, in proportion to the size of its body, is only known to us as an occasional visitant,—a few specimens having been from time to time killed in different parts of these islands. It is met with in France, Germany, and the southern parts of Continental Europe, but only as a bird of passage, its chief habitats being in Hungary and Russia, upon the margins of the widely extended saline lakes of those countries, where it breeds and rears its young. It is also common in various parts of Asia, and occurs in Egypt and other districts of the African continent. Of its habits and other peculiarities I am unable to give any detailed account, never having been fortunate enough to see the bird in a living state, nor can I supply this deficiency by extracts from any other author *. Judging, however, that they will, in a great measure, resemble those of others of this genus, I refer my readers to WILSON's graphic account of an American species closely related to the present one, and which he has described under the title of *Recurvirostra Himantopus*.

PLATE 39.* Represents this bird of the natural size.

General
description.
Male.

Bill black. Irides red. Forehead, region of the eyes, sides and front of the neck, lower part of the back, and the under parts white; the latter tinged with rose-red. Occiput and nape of the neck greyish-black. Hind part of the neck white, many of the feathers being tipped with greyish-black. Mantle, scapulars, wing-coverts, and quills black, glossed with duck-green. Tail ash-grey. Legs and toes vermilion-red. Tarsi thin and reticulated.

Female.

The female is inferior in size, and the dark parts of her plumage incline more to brown, without exhibiting the glossy green lustre of the male bird.

* I am informed that there is a coloured figure and description of this bird, under its former title of *Long-legged Plover*, in Dr SHAW's "Naturalists' Miscellany," (a periodical work of considerable ability, but now difficult to be met with), taken from a recent specimen transmitted to that distinguished naturalist by a clergyman in Wales, where the bird was killed.

GENUS ŒDICNEMUS, *TEMM.* THICK-KNEE.

GENERIC CHARACTERS.

BILL rather longer than the head, strong, strait, depressed at the base; the tip horny, hard, and compressed; culmen of the upper mandible prominent, with the tip gently deflected. Nasal fosse large and wide, covered with a membrane like a cere. Under mandible angulated, and ascending towards the point. Gape of the bill extending backwards as far as the anterior angle of the eye. Nostrils medial, longitudinally cleft as far as the horny tip of the bill, open in front, and covered in the back part by the membrane of the fosse.

Wings of mean length, pointed, having the first quill shorter than the second, which is the longest in the wing. Tail wedge-shaped.

Legs long, slender, with part of the tibiæ naked above the tarsal joint. Tarsi covered with hexagonal scales. Feet three-toed, with all the toes directed forwards. Toes short, united at the base by a membrane, which is continued, and borders each toe. Nails short, slightly curved, with the inner edge of the middle one dilated.

This interesting genus, established by TEMMINCK for the reception of that species known in Europe, and of several others which late discoveries have produced to us from Africa, Asia, and New Holland, stands at the extremity of the present family, and serves to connect it with the *Rasorial* order, by its evident affinity to the Bustards, and other genera of the family of *Struthionidæ*. Its intermediate position between the Plovers and Bustards is clearly pointed out by the station which earlier systematists have given to the European species (the only one then known), LATHAM having placed it in the genus *Otis*, LINNÆUS and others in that

of *Charadrius*. It possesses, however, characters sufficiently prominent and distinct to warrant its separation from both; and which necessity is further shewn by the recent discovery of several other species, all possessing the typical characters of the Common Thick-knee. To the Plovers it is allied by the structure of its bill, by its large and rounded head, and the general contour of the body; to the Bustards by the form of its feet, and the shortness of its toes. Its habits are also more assimilated to the latter group, and, like them, it lays but *two* eggs. The species reside on uncultivated open countries and dry deserts, feeding upon insects, worms, small mammalia, and reptiles. Their moult appears to be simple, and there is but little difference between the sexes in plumage and general appearance.

COMMON THICK-KNEE.

ÆDICNEMUS CREPITANS, Temm.

PLATE XL.

- Ædicnemus crepitans*, Temm. Man. d'Ornith. 2. 521.—*Shaw's Zool* 11. 459. pl. 33.
Ædicnemus Bellonii, Flem. Br. Anim. 1. 114. sp. 166.
Charadrius Ædicnemus, Linn. Syst. 1. 255. 10.—Gmel. Syst. 1. 689.—*Wagler*, Syst. Av. sp. 1.
Otis Ædicnemus, Lath. Ind. Orn. 2. 661. sp. 11.
Pluvialis major, *Ædicnemus vulgo dicta*, *Raii* Syn. 108. A. 6.—*Will.* 227. tab. 58.—*Brisson*, Orn. 5. 76. 12. t. 7. f. 1.
Fedoa nostra tertia, *Raii* Syn. 105. A. 6.—*Will.* 216.
Le Grand Pluvier, ou Courlis de Terre, *Buff.* Ois. 8. 105. pl. 7.—*Id.* Pl. Enl. 919.
Ædicneme Criard, Temm. Man. d'Ornith. 2. 521.—*Lesson*, Man. d'Ornith. 2. 336.
Lerchengraue Regenpfeifer, *Bechst.* Naturg. Deut. 4. 387.—*Meyer*, Tassenb. Deut. 2. 317.
Stone Curlew, *Albin's* Br. Birds, 1. pl. 69.—*Will.* (Angl.) 306.—*Rennie's* Mont. Orn. Dict. p. 500.
Thick-kneed Bustard, *Penn.* Br. Zool. 1. No. 200.—*White's* Hist. Selb. 4to. 43. 88.—*Lath.* Syn. 4. 806. 9.—*Levin's* Br. Birds, 4. pl. 141.—*Mont.* Ornith. Dict. 1.—*Id.* sup.
Great Plover, *Bewick's* Br. Birds, ed. 1826. 1. p. t. 363.
Common Thick-knee, *Leach*, Cat. Br. Mus. p. 28.—*Steph.* *Shaw's Zool* 11. 459. pl. 33.

PROVINCIAL—Norfolk Plover.

THE Common Thick-knee, or, as it is frequently called, the *Norfolk Plover*, is a migratory bird, and one of our regular summer visitants. It arrives in England generally about the end of April or the beginning of May (though earlier instances of its appearance have been occasionally noticed), and, after performing the duties attendant upon the reproduction of the species, as autumn advances collects into flocks, and retires soon afterwards, with the addition of the new matured young, to Africa and the warmer latitudes of the European continent, to pass the hiemal months. Its distribution in this country is principally confined to a few of the southern and eastern counties, as its peculiar habits direct it to such as afford extensive open tracts; on which account it is most abundant in Norfolk, Suffolk, and Sussex. It is also found in Hampshire, and sometimes, though of much rarer occurrence, in the wolds of Yorkshire, which seem to be the highest limit of its migration here; as I never met with it, nor have I heard of any instances of its capture in the more northern countries, or in any part of Scotland. According to MONTAGU and other ornithologists, it is equally excluded from the western parts of the island. Wide hilly downs are the situations that suit the economy of this bird, and where it passes the period of its residence with us. It makes no nest, but deposits its eggs on the surface of the earth, in fallow or other bare ground, especially where flint stones are abundant; as their similarity in colour to the bird and its eggs furnish great means of safety from its enemies. Like the Bustard, its eggs are limited to two, which are of a light yellowish-brown, with blotches and streaks of different shades of brown. The young follow their parents upon immediate exclusion, and are then covered with a parti-coloured grey down, which gradually gives place to the proper plumage, till in six weeks or two months they are enabled to fly, and of course to provide for themselves. The large and prominent eye of this bird indicates it as being a late and nocturnal feeder, and we accordingly find its prey

Periodical
visitant.

Nest, &c.

Food. to consist of small mammalia, reptiles, worms, and insects, of such species as are known to be abroad and in activity under the shades of night. The stomachs of two individuals sent to me from Norfolk in the spring, soon after their arrival in this country, were filled with the remains of beetles, chiefly belonging to the genus *Carabus*. This organ (unlike that of the Little Bustard, *Otis Tetrax*) was very muscular, with its inner coats corrugated; and in addition to the remains above mentioned, contained several small flint pebbles, in all probability intentionally swallowed, to assist the folds of the stomach in acting upon the hard shelly covering of its prey. This is a bird of wild and shy disposition, and, like other night-feeding species, usually is at rest during the day, sitting closely squatted behind a stone, clod, or any protecting cover; and, when disturbed, after flying to a short distance, runs off with great rapidity. With the advance of twilight it issues from its retreat in search of food, and may then be heard frequently uttering its loud and shrill whistle, which is supposed to be the amorous note-call of the male bird. It flies with great strength and swiftness, and during the night (especially in the breeding season) sometimes mounts high in the air. In its flight the legs are stretched out behind (as in the Plovers, and indeed in most of the *Grallatores*) to preserve the equilibrium of the body. This species has a wide geographical range in the old world, being found in Spain, the southern parts of France, in Germany, Italy, Sardinia, and Turkey, and in other southern parts of Europe, suitable to its habits. It is also to be met with in parts of Africa and Asia. The young are said to be good for the table, but the flesh of the old birds is dry, hard, and strong.

PLATE 40. Represents this bird of the natural size.

General
descrip-
tion.

Head and upper parts of the body reddish-white, tinged with ash-grey and yellowish-brown, each feather having a central streak of umber-brown. Cheeks, throat, belly,

and thighs white. Neck, and upper part of breast, yellowish-white, streaked with brown. Lesser wing-coverts pale cream-white. Quills black, the first having a large white bar near the middle, the second with one rather smaller. Tail wedge-shaped, the three outmost feathers reddish-white, with arrow-shaped bars and a broad tip of black, the next two feathers more inclining to wood-brown, with a few darker zigzag lines and variegations, and with black tips; the two middle feathers pale wood-brown, slightly marbled, but without the black tips. The horny point of the bill black, the basal part being primrose-yellow. Irides gamboge-yellow. Behind the eyes is a bare space of a wax-yellow colour. Legs and toes yellow, with a greyish tinge. Claws blackish-brown.

The female resembles the male bird; and the young are distinguished by the colours being less marked and distinct, and the tarsus below the joint being thick and swollen.

ORDER V.

NATATORES.

THIS Order, which constitutes the fifth great division of the Class, contains (as the title imports) all the various tribes conspicuous for their aquatic habits; and whose conformation, as to the structure of the feet and other anatomical points, fits them for swimming, diving, &c., and entitles them to the appropriate name of Water-Fowl. It answers to the *Palmipedes* of other systematists, if we except a few forms, which it has been found necessary (in strict accordance

with their affinities, and with the station they seem naturally to hold), to remove to families of another order; as the genus *Phænicopterus* (Flamingo) to the family of *Ardeæ*, and *Recurvirostra* (Avoset) to that of *Scolopacidae*, in the order *Grallatores*; the feet of these birds betokening more analogy than affinity to those of the true *Natatores*. The present order, like the preceding one, may be divided into five natural families, which (according to the nomenclature now adopted), are thus entitled, *Anatidæ*, *Colymbidæ*, *Alcadæ*, *Pelecanidæ*, and *Laridæ*, each taking its designation from the typical or representative genus. Of these, the *Colymbidæ* and *Alcadæ*, possessing in a superior degree the structure and qualities that peculiarly fit them for living on the ocean, and being at the same time deficient in properties possessed by the others, which are not so directly essential to that end, may be considered the typical representatives of the order; for as the order itself, as Mr VIGORS observes, is aberrant, inasmuch as it deviates from what he calls the more perfect structure* of the conterminous tribes or orders, the normal subdivisions will necessarily consist of such groups as carry this deviation to the greatest extreme, and this, upon investigation, will be found to prevail in the different genera of these two families. The other three, which diverge more or less from the true natatorial form, as exhibited in the *Colymbidæ* and *Alcadæ*, and approximate to each other, as well as to the families and groups of the preceding orders, form the aberrant divisions. The same circular succession of affinities that prevails throughout the

* When the words *perfect structure* are used, they must mean that peculiar formation which lies equally removed from the two extremes, considered with respect to systematic arrangement; such, for instance, as the central (or typical) form of any division or family. This distinction seems necessary to be made, lest the term should be liable to misconstruction; as we know that every creature issued *perfect* from the hand of its Creator, that is, with such an adaptation of its parts and their functions to its peculiar habits as Almighty Wisdom alone could produce.—P. S.

other orders and their subdivisions, may be traced in the present one; and its connexion with *them*, at various points, satisfactorily established by the tendency of particular genera and species. It is also through the connexion of this order with that of the *Raptores* (however improbable it may at first view appear), that the circle of the orders themselves is completed. This seems, however, to be effected by the intervention of a peculiar form in the family of the *Pelecanidæ*; I allude to the genus *Tachypetes* of VIEILLOT (the type of which is the *Pelecanus Aquilus* of LINNÆUS), of which the species, both in form, flight, and predatory habits, shew a marked and near approach to the true raptorial birds. As the affinities of each family will be more particularly alluded to under their respective heads, I pass without further preface to that of the *Anatidæ*, with which the order commences.

FAMILY I.—ANATIDÆ.

THE Family of *Anatidæ*, to which we are introduced by the connexion subsisting between certain of its members and others of the preceding orders, forms the first aberrant family of the *Natatores*, and is formed of the extensive Linnean genus *Anas* with that of *Mergus*. The first it has been found necessary, by subsequent systematists (from the difficult task of reconciling and adapting the Linnean generic characters to the vast variety of species it contains), to separate, either by sectional division, as adopted by M. TEMMINCK, in his "Manuel d'Ornithologie" (which division is in fact equivalent to the subfamilies of the present system), or by the institution of distinct genera, the plan of ILLIGER, as well as other naturalists of the present day, and in which they do but follow the older ornithologists who preceded the learned Swede. In conjunction, however, with the genus *Mergus*, it appears clearly to admit of being separated

into five subdivisions or *Subfamilies** (or, as others may chuse to call them, Genera), each displaying the same series of affinities within itself that regulates the more extensive divisions. The first of them is the subfamily *Anserina*, containing all the species generally known under the name of Geese (and answering to TEMMINCK's section *Les Oies*), amongst which I also include the genus *Cereopsis* of LATHAM. These, in their terrene habits, food, facility of walking, length of neck and of leg (as compared with the other *Anatidæ*), and bareness of the tibia above the tarsal joint (as exemplified in *Cereopsis*, &c.), shew a near approach to the *Rasores* and *Grallatores*, and serve as a connecting medium between them and the present order. To the Geese, the subfamily *Cygnina* (Swans) seems naturally to succeed, nearly allied to them in form and other characteristics, but more aquatic in their habits; with shorter legs, placed further backwards and more out of the centre of gravity, being thus endowed with less activity upon land. In the form of the bill they shew their connexion with the two next subfamilies; the first of which, *Anatina*, answers to TEMMINCK's first section of "*Canards proprement dits*." This appears to form the typical group of the present family, for in it we find the lamellated structure of the bill (belonging more or less to all the *Anatidæ*), developed in the highest degree; and habits mediate between those that approach nearest to the Land Birds, and those conducting to the more typical *Natatores*†.

* This arrangement of the *Anatidæ* differs slightly from that of Mr VIGORS, as developed in his "Sketches in Ornithology," published in the third volume of the Zoological Journal; in which he has made *Cereopsis* (without, as I think, sufficient reason, or a due consideration of its structure and affinities) the type of a subfamily. He has also placed the Mergs in the subfamily that contains the Ducks with a lobated hind toe, whereas the peculiar characters of the former seem to entitle them to a distinct station.

† I refer my readers to an able article, entitled, "On those Birds which exhibit the Typical Perfection of the Family of the *Anatidæ*," by Mr SWAINSON (one of the most scientific ornithologists of the present day)

From the *Anatina* we are led by easy gradations of character to the fourth subfamily *Fuligulina*, embracing TEMMINCK's second section of *Canards*, or Ducks with a lobated hind toe. These are more pelagic in their habits than the foregoing groups, and in form also make a more evident approach to the typical families of the present order; their legs, by being thrown far backwards, and much out of the centre of gravity, render their progress upon land constrained and awkward, but essentially contribute to their power of swimming. With them the neck becomes shortened and thicker, and the gullet more capacious, proportionate to the larger kind of food upon which they subsist. They swim remarkably well, rarely quit the water, and are in the constant habit of obtaining their food by diving. Nearly allied to these last in the backward situation of the legs, the form of the feet, lobated hind toe, and aquatic habits, are the members of the genus *Mergus*, forming the fifth subfamily *Mergina*. They differ, however, in the form of the bill, which in a great measure loses the breadth and depression seen in the three immediately preceding groups of the *Anatidæ*, and becomes more like that of the succeeding families of the order; at the same time that the connexion with the first subfamily *Anserina* is preserved by the Smew (*Mergus albellus*), whose bill is almost of an intermediate form between that of some of the smaller Geese and the other species of *Mergi*.

The *Anatidæ* are distinguished from the rest of this order, not only by the broad and depressed form of the bill, but by its softer consistence, and being entirely clothed by an epidermis, or skin, with the exception of the dertrum, or terminating nail. Its structure is also peculiar in another essential point, and differs from that of all other birds in the edges being furnished with lamellar plates, more or less de-

published in the Fourth Number of the Journal of the Royal Institution of Great Britain.

veloped, according to the proximity of the species to the typical subfamily *Anatina*; in which, as I have before observed, it is carried to the highest perfection, in beautiful accordance with the use that so singular a structure is destined to fulfil. In the *Mergi*, which stand at the further extremity of the family, and whose piscivorous habits differ from those of the rest of the *Anatidæ*, this disposition of the edges of the bill becomes much altered, assuming the appearance of distinct hooks pointing backwards, a modification admirably adapted, by acting as teeth, to assist these birds in catching and holding their slippery prey. In this family (and particularly in the typical species), the tongue is very large and fleshy, furnished on its margin and other parts with rough appendages to secure their prey, and probably also to separate it from the water and mud by which it is often necessarily accompanied. The trachea, or windpipe, of the male birds in the three last subfamilies, and in some of the less typical species of *Anserina*, is distinguished by a singular enlargement or capsule near its bifurcation, differing in form according to the species; in addition to which a few species display other enlargements in parts of the trachea, as exemplified in *Mergus merganser*, *Oidemia fusca*, *Clangula vulgaris*, &c. The stomach, or gizzard, of the *Anatidæ* is large and very muscular, and the cæcum is of considerable length.

SUBFAMILY ANSERINA.

GENUS ANSER, BRISS. GOOSE.

GENERIC CHARACTERS.

Bill as long as, or shorter than, the head; strait, conical, thick, much higher than broad at the base, depressed and flattened towards the tip; entirely covered with a cere, or naked skin, with the exception of the nails of the upper and

lower mandibles, which are distinct and horny, orbiculate and convex; that of the upper mandible having the tip deflected, and covering the lower one. Lower mandible also narrower than the upper. Tomia laminato-dentated; the lamellæ of the upper mandible exposed, those of the lower mandible covered by the projection of the upper one.

Nostrils lateral, placed rather behind the middle of the bill, and pierced in the lower and front part of the membrane that covers the nasal furrow. Tongue broad, fleshy, and fimbriated.

Wings long, ample, tuberculated.

Legs placed nearly under the centre of the body; the tibia clothed nearly to the tarsal joint. Feet four-toed; three before and one behind; the front toes palmated, the hind one free, and articulated upon the tarsus, and scarcely touching the ground with its tip. Middle toe the longest. Nails falcate, and having their inner edges dilated.

Although LINNÆUS combined the whole of the *Anatidæ*, with the exception of the genus *Mergus*, under one generic head, the elder naturalists had always separated the Geese (or genus *Anser*) from the true Ducks, as presenting distinct and peculiar characters, not only in form, but in habits. The same has also been the prevalent opinion amongst subsequent authors; and we find the genus *Anser* adopted by ILLIGER, BECHSTEIN, CUVIER, and other continental ornithologists, as well as by FLEMING, VIGORS, and most of the distinguished writers on this subject in our own country. The *Bernicles* have, by Mr STEPHENS, in the twelfth volume of Shaw's General Zoology, been separated from the rest, and described under the generic title of *Bernicla*, an arrangement that for the present I decline following, as I cannot, after the most minute investigation into the characters of the species, fix upon any one of sufficient importance to warrant a separation from the genus *Anser*, as above characterized. The genus, therefore, as now established, will

contain those species which we are accustomed to term *Wild Geese*, bearing a great resemblance to each other in form, colour of plumage, and habits; and the *Bernicles*, of inferior size, with a shorter bill, and generally with black legs.

From the central position of their legs, the moderate size of their feet, and the length of their tarsi, the Geese walk readily on land, and are indeed much more frequently seen there than on the water. They swim, however, with buoyancy and ease, but rarely dive, and only in cases of great emergency; when wounded, perhaps, or otherwise unable to escape. In diet they are graminivorous, as well as granivorous, chiefly the former; and for cutting such kind of food the laminated structure of the bill is admirably adapted. For this purpose they seek the meadows of the interior of the country, and resort much to fields of young wheat or other grain. From the great development of wing their flight is strong, and they make rapid progress during their migratory journeys, as they can move at the rate of fifty or sixty miles in an hour. In these flights they advance in a diagonal line, or in two such lines, meeting in a point like an inverted V. They breed in the marshy districts of the countries to which they retire during the summer months, laying several eggs of a white, or sullied white colour. The flesh of the species is well flavoured, and highly esteemed for the table; and in some countries certain kinds constitute the principal support of the inhabitants, being killed in immense numbers during their periodical flights, and prepared as food for the winter.

GREY LAG WILD GOOSE.

ANSER PALUSTRIS, Flem.

PLATE XLI.

Anser palustris, Flem. Br. Anim. 1. 126. sp. 195.*Anas Anser (ferus) Gmel. Syst.* 1. 510. sp. 9.—*Lath. Ind. Ornith.* 2. 841. sp. 26.*L'Oie cendrée ou Première, Temm. Man. d'Ornith.* 2. 818.*L'Oie ordinaire, Cuv. Reg. Anim.* 1. 530.*Wilde Gemeine Gans, Bechst. Naturg. Deut.* 4. 842.*Grey Lag Goose, Penn. Br. Zool.* 2. 570. No. 266.—*Arct. Zool.* 2. 473.—*Lath. Syn.* 6. 459. 31.—*Lewin's Br. Birds*, 6. pl. 238.—*Mont. Orn. Dict.*1. and Sup.—*Bewick's Br. Birds*, ed. 1826. p. t. 282.*Wild Goose, Shaw's Zool.* 12. 28. pl. 41.*Common Wild Goose, Will. (Angl.)* 358.

FROM the concurrent testimony of our older writers, it appears that this species was formerly very abundant in Britain; and was also a permanent resident here, breeding annually in great numbers in the fens of Lincolnshire, and some of the adjoining counties. The draining and cultivation of these marshy tracts, under progressive agricultural improvement, and the increasing population of the kingdom, has, however, banished these birds from their ancient haunts; and they are now, comparatively speaking, of rare occurrence, and, as far as I can ascertain, only met with in small flocks during the winter. They seem to have given place, as it were, to the next species (*Anser segetum*, Bean Goose), which, as a winter visitant, is very numerous, and widely spread throughout the country. According to TEMMINCK, the present species seldom advances much beyond the fifty-third degree of north latitude; its geographical distribution extending over the central and eastern parts of Europe, Northern Asia, and some parts of Western Africa, where it inhabits the marshes, and the borders of lakes and inland seas. It breeds amongst the rushes and other coarse herbage, making a large nest of vegetable matter, and laying

Periodical
visitant.

Nest, &c

Food. from six to twelve eggs of a sullied white. Its food consists principally of the various grasses of the moist and marshy tracts it affects, though it eats grain with avidity. It is also very fond of the tender blades of wheat, &c., and often, during its periodical visits, does considerable damage to corn fields in an early stage of growth. Being a bird of great shyness and vigilance, it can only be approached by stealth, and with the utmost caution; this is generally effected by that mode of fowling called *stalking*, in which a horse is so trained, as, hiding the person of the fowler, to advance by degrees, and in an easy and natural manner, upon the flock, as they are at rest or feeding on the ground. In the latter state, which only occurs during the day-time, sentinels (occasionally relieved) are always on the watch to give notice of approaching danger, which they do, on the slightest suspicion, by a cry of alarm; and immediately the whole flock take wing, with an alertness and rapidity that could scarcely be expected in birds of such bulky appearance. At night they generally retire to the water for repose, but the same watchful attention to safety is maintained by sentinels, that distinguishes their conduct during the day. They usually fly at a great height in the air, moving either in a single diagonal line, or in two lines forming an angle, or inverted V. In this order the office of leader is taken by turns, the foremost, when fatigued, retiring to the rear, and allowing the next in station to lead the flight. It is generally admitted that our race of domestic Geese has originally sprung from this species, and however altered they may now appear in bulk, colour, or habits, the essential characters remain the same; no disinclination to breed with each other is evinced between them, and the offspring of wild and domesticated birds are as prolific as their mutual parents. The value of this species in its present domestic state, not only as food, but from the various uses to which its covering applies, is too well known for me to dwell upon; and as these points, along with the rearing and management of the bird, have been

fully treated of by PENNANT, MONTAGU, and BEWICK, I refer my readers, without further apology, to the works of these distinguished authors.

PLATE 41. represents this bird in about four-fifths of the natural size.

Bill orange-red; nail of the bill greyish-white (which, however, is not invariably the case, as TEMMINCK asserts in his description of the distinctive characters of this and the following species). Head and neck clove-brown, tinged with grey, the feathers of the latter disposed in rows, and forming lines or furrows. Back, scapulars, and wing coverts clove-brown, tinged with ash-grey, and the feathers deeply margined with greyish-white. Lesser wing coverts deep bluish-grey. Upper tail coverts white. Breast and belly greyish-white, undulated with transverse bars of a deeper shade. Vent and under tail coverts white. Tail clove-brown, with the margins and tips of the feathers white. Legs and feet tile-red.

General
description.

BEAN GOOSE.

ANSER FERUS, Flem.

PLATE XLII.

- Anser ferus, Flem.* Br. Anim. 1. 126. sp. 196.
Anser segetum, Steph. Shaw's Zool. 12. 26.
Anas Anser (ferus) Linn. Syst. 1. 197. 9.—*Raii* Syn. 136. sp. 2. 4.
Anser sylvestris, Briss. 6. 265. 2.
Anas segetum, Gmel. Syst. 1. 512.—*Lath.* Ind. Ornith. 2. 843. sp. 28.
L'Oie sauvage, Buff. Ois. 9. 30. t. 2.—*Id.* Pl. Enl. 985.
Oie vulgaire ou sauvage, Temm. Man. d'Ornith. 2. 820.
Saat Gans, Bechst. Naturg. Deut. 4. 883.—*Meyer,* Tasschenb. Deut. 2. 554.
Bean Goose, Br. Zool. 2. 575. No. 267. Pl. 94.—*Arct.* Zool. 2. No. 472.—*Lath.* Syn. 6. 464. 23.—*Lewin's* Br. Birds, 6. pl. 239.—*Mont.* Ornith. Dict. and Sup.—*Bewick's* Br. Birds, ed. 1826. p. 286.—*Shaw's* Zool. 12. 26.
Wild Goose, Flem. Br. Anim. 1. 126. sp. 196.

PROVINCIAL—Common Wild Goose, Small Grey Goose.

Periodical
visitant.

THE Bean, or as it is very frequently called, the *Wild Goose*, bears in general appearance, and in the colour of its plumage, a great resemblance to the preceding species, and with which it is sometimes confounded. It may, however, be always distinguished from the *Grey Lag* by the form of its bill, which is comparatively much smaller, shorter, and more compressed towards the end. The colour of that member also differs, the basal part of the under mandible, and that of the upper as far as the line of the nostrils, with the nails of both mandibles, being black, and the intermediate part flesh-red, inclining to orange. It is also generally less, though I have had specimens equal in bulk to the smaller individuals of *Anser palustris*; and the wings of the present species, when closed, reach beyond the end of the tail.—In Britain it is well known as a regular winter visitant, arriving in large bodies from its northern summer haunts, during September or the beginning of October, and seldom taking its final departure before the end of April or beginning of May. The various flocks, during their residence in this country, have each their particular haunts or feeding districts, to which on each ensuing season they invariably return, as I have found to be the case in Northumberland and the southern parts of Scotland, where Wild Geese have been known to frequent certain localities for a continued series of years. The habits of this and the preceding species are very similar, and they shew the same vigilance, and use the same means of guarding against surprise: their capture is therefore proportionably difficult, and it is only by stratagem that, when at rest on the ground or feeding, they can be approached within gun-shot. In stormy weather, when they are compelled to fly lower than they usually do, they may be sometimes intercepted from a hedge or bank, situated in the route they are observed to take early in the morning, in passing to their feeding ground. At night they retire to the water, or else (as I have often remarked in Northumberland) to some ridge or bar of sand on the sea coast, suffi-

ciently distant from the main land to afford a secure retreat; and where the approach of an enemy must become visible, or at least audible to their acute organs, before it could endanger their safety. The haunts or feeding grounds of these birds are more frequently in the higher districts than in the lower and marshy tracts of the country, and they give the preference to open land, or where the inclosures are very large.—They feed much upon the tender wheat, sometimes injuring these fields to a great extent; and they frequent also the stubbles, particularly such as are laid down with clover and other grasses. In the early part of spring they often alight upon the newly sown bean and pea fields, picking up greedily such of the pulse as is left on the surface; and I am inclined to think that their trivial name has been acquired from their apparent predilection for this kind of food, rather than from the shape and aspect of the nail of the upper mandible, to which it has been generally attributed. They usually fly at a considerable elevation, either in a diagonal line, or in two such lines, opposed to each other, and forming a leading acute angle, like the other species; and when on wing they maintain a loud cackling, in which the voices of the two sexes may be easily distinguished. The rate at which they move, when favoured by a gentle breeze, is seldom less than from forty to fifty miles an hour, a velocity which enables them to have their roosting place far removed from the district they frequent by day. The principal breeding stations, or summer retreats, of the Bean Goose are in countries within the arctic circle; it is said, however, that great numbers breed annually in Harris, and some of the other outermost Western Islands. The nest is made in the marshy grounds, and formed of grasses and other dry vegetable materials; the eggs are white, and from eight to twelve in number. The trachea of this species increases in diameter towards the middle, and the bronchiæ are short and tumid. The denticulated lamina of the sides of the bill are similar in formation to those of *Anser palustris*, and form

Food.

thin sharp cutting edges, and the manner in which they lock within each other, renders the bill an instrument beautifully adapted for vegetable food.

PLATE 42. represents this bird of the natural size.

General
description.

Head and upper part of the neck brown, tinged with grey; the feathers of the latter being disposed in lines, and giving it a furrowed appearance. Lower part of the neck, breast, belly, and abdomen ash-grey, with deeper transverse shades of the same colour. Vent and under tail-coverts white. Back and scapulars clove-brown, tinged with grey; each feather being margined with greyish-white. Wing-coverts ash-grey. Secondaries clove-brown, with white edges and tips. Primary quills greyish-black. Rump deep grey. Upper tail-coverts white. Tail clove-brown, with the feathers deeply edged and tipped with white. Bill having the central part and edges of the upper mandible flesh- (or sometimes tile-) red; the base and nail black. Legs and toes inclining to orange-red, but varying in depth of colour according to the age of the bird. Wings, when closed, reaching beyond the end of the tail.

WHITE-FRONTED WILD-GOOSE.

ANSER ERYTHROPUS, Flem.

PLATE XLIII.

Anser Erythropus, Flem. Br. An. 1. 127. sp. 197.

Anas Erythropus, Linn. Syst. 1. 197. 11.—Temm. Faun. Suec. 116.

Anser albifrons, Steph. Shaw's Zool. 12. 25.

Anas albifrons, Gmel. Syst. 1. 509.—Lath. Ind. Orn. 2. 842. 27.

Anser septentrionalis sylvestris, Briss. Orn. 6. 269.

L'Oie rieuse, Buff. Ois. 9. 81.—Temm. Man. d'Orn. 2. 821.

Blassen Gans, Bechst. Naturg. Deut. 4. 898.—Meyer, Tasschenb. Deut. 2. 555.

Laughing Goose, Edward, Glean. pl. 153.—Flem. Br. Anim. 1. 127. sp. 197.

White-fronted Goose, Br. Zool. 2. 576. No. 268. t. 94. fig. 1.—Arct. Zool. 2. No. 476.—Lath. Syn. 6. 463. 22.—Lewin's Br. Birds, 6. 240.—Mont. Orn. Dict. 1.—Bewick's Br. Birds, ed. 1826, p. t. 294.—Shaw's Zool. 12. 25.

THE White-fronted Goose is one of our regular winter visitors, and in the southern and midland parts of England appears, from the testimony of MONTAGU, to be more abundant than the preceding species; which is by no means the case in the northern parts of the island, being there comparatively of rare occurrence, and in small flocks. It varies from the Bean-Goose, in preferring low and marshy districts, to the upland and drier haunts of that bird; and in these localities subsists on the aquatic grasses, being very seldom seen to frequent corn or stubble fields. A specimen sent to me (and which was killed near Alnwick, in Northumberland), had its stomach gorged with the tender shoots and leaves of the common clover (*Trifolium pratense*), upon which it was feeding, on the breaking up of a severe snow-storm. In size the large males nearly equal *Anser palustris*, some of them weighing as much as seven pounds; and in the market are frequently sold for the common species, but may at once be distinguished by the white forehead, and the black patches, which are never totally wanting on the breast and belly. During its winter or equatorial migration this species is numerous in Holland, and also in some districts of France and Germany. Its geographical distribution includes Europe, Northern Asia, and North America. In summer it retires within the Arctic Circle, and rears its young in those sequestered and tranquil regions, the nursery of such various tribes of the feathered race. In England these birds disappear on the first approach of spring, and some time before the departure of the Lag and Bean Geese; few being ever seen after the middle of March. As an article of food the White-fronted is equal to any of the others, its flesh being well-flavoured and tender, provided the subject be not too far advanced in years.

Periodical
visitant.

Food.

General description. **PLATE 43.** represents this species, rather below the natural size.

Bill flesh-red, tinged with orange; the nail being skim-milk white. Forehead and margins of the upper mandible white. Head and neck brown, tinged with grey. Breast, belly, and abdomen, black; varied with patches of white. Back clove-brown; with the margins of the feathers light-grey. Wing-coverts grey, edged with white. Quills greyish-black. Rump clove-brown. Upper and under tail-coverts, and vent, white. Tail having the middle feathers deep grey, edged with white; and the outer ones almost entirely white. Legs and toes reddish-orange. Claws white.

BERNICLE GOOSE, or CLAKIS.

ANSER BERNICLA, Flem.

PLATE XLIV.

- Anser Bernicla, Flem. Br. Anim. 1. 127. sp. 198.*
Anser Leucopsis, Bechst. Naturg. Deut. 4. 921.
Anas Leucopsis, Temm. Man. d'Orn. 2. 823.
Anas Erythropus (mas), Linn. Syst. 1. 197. 11.—Lath. Ind. Orn. 2. 843. sp. 31.—Gmel. Syst. 1. 512.
Bernicla erythropus, Steph. Shaw's Zool. 12. 49.
Bernicla, Will. Orn. 274.—Briss. Orn. 6. 300.
La Bernache, Buff. Ois. 9. 93. f. 5.—Id. Pl. Enl. 855.
Oie Bernache, Temm. Man. d'Orn. 2. 823.
Weisswangige Gans, Meyer, Tasschenb. 2. 557.
Canada Goose, Albin's Br. Birds, 1. t. 92.
Bernicle, or Clakis, Penn. Br. Zool. 2. 577. No. 269.—Arct. Zool. 2. No. 479.—Will. (Ang.) 359.—Lath. Syn. 6. 466. 26.—Lewin's Br. Birds, 7. pl. 242.—Mont. Orn. Dict. 1. and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 302.—Flem. Br. Anim. 1. 127. sp. 198.
 PROVINCIAL.—Claik-goose, Routherook.

FROM the mistake of LINNÆUS, in describing the true Bernicle as the male of *Anser Erythropus* (White-fronted Goose), and considering *A. Brenta* and *A. Bernicla* of the older naturalists as synonymous, a misapplication of the ap-

appropriate specific names has arisen amongst succeeding writers, they having still continued the appellation *Erythropus* to the Bernicle, instead of giving it to its proper object. TEMMINCK and BECHSTEIN, who saw the impropriety of retaining a specific name so inapplicable to the species (whose legs and feet are *black*), instead of restoring that imposed by the predecessors of LINNÆUS, gave it the new one of *Leucopsis*; and also neglected to transfer that of *Erythropus* to its real representative, the *Anas albifrons* of GMELIN and LATHAM. Dr FLEMING, however, in his "History of British Animals," has now rectified these errors, and the White-fronted and Bernicle Geese are each described under their appropriate titles of *A. Erythropus* and *A. Bernicla*.—The Bernicle is amongst the number of our winter visitants, annually resorting in vast numbers, upon the approach of autumn, to the western shores of Britain, and to the north of Ireland. Upon the Lancashire coast, the Solway Frith, &c. it is very abundant; frequenting the marshy grounds that are occasionally covered by the spring-tides, and such sands as produce the sea-grasses and plants upon which it feeds. Upon the eastern and southern shores of Britain it is of rare occurrence, its place being supplied by its nearly-allied congener, the Brent Goose (*Anser Brenta*); which again is as rarely seen upon the opposite coast of the island*. Like the rest of its genus, the Bernicle is a very wary bird, and can only be approached by the most cautious manœuvres. It is sometimes shot by moonlight, when it comes on the sands to feed, by persons crouched on the ground, or from behind any occasional shelter, in such places as the flocks are known to frequent. Its flesh is sweet and tender,

Periodical
visitant.

Food.

* WILLOUGHBY, in his valuable "Ornithology," (page 360, edit. 1678), mentions having seen the stuffed skin of the Bernicle in Sir W. FORSTER's hall at Bamburgh Castle, which I consider indicative of its scarcity on the Northumbrian coast at that period, being doubtless hung up as a *rara avis*. Brent Geese are still to be seen in great numbers in Budle Bay, not more than a mile to the northward of Bamburgh Castle.

and highly esteemed for the table. Upon the approach of spring it leaves our shores for more northern countries, and by the middle of March the whole have retired. Its summer retreats extend to very high latitudes, as it is known to breed in Iceland, Spitzbergen, Greenland, &c. as well as in Lapland, the northern parts of Russia, and northern Asia. It also inhabits Hudson's Bay, and other polar districts of the American Continent. During its equatorial or winter migration, besides the shores of our own island, it is abundant in Holland, France, and parts of Germany. I cannot but notice here, for the lovers of the ridiculous, the wonderful accounts given by GERARD, the celebrated botanist, and some others, of the origin of this and the next species from a kind of shell (the *Lepas Anatifera* of LINNEUS); yet are they curious, as exhibiting the great ignorance and consequent credulity of the age in which they were written. I refer my readers therefore to GERARD's Herbal, page 1588, edit. 1636; or to the extracts from it, and other authors, contained in the twelfth volume of SHAW's Zoology, under the head of the *Common Bernicle*. In the present species, and in the Brent Goose, we have a slight modification in the form of the bill, which is shorter in proportion to the size of the birds than in the geese already described; and the lamellæ of the upper mandible are in a great measure concealed by the reflected edges of the bill. These differences, however, are so trifling, as scarcely to warrant a generic separation, but they lead the way to other forms where such separation appears necessary. The Bernicle is a bird of handsome shape, and, from the length of its neck and tarsi, stands high upon the ground. When caught alive, it soon becomes very tame, and thrives well upon grain, &c.; but no attempts have been hitherto made to domesticate the breed.

PLATE 44. represents this bird in about three-fourths of the natural size.

Forehead, cheeks, and throat, white. Between the bill and eyes is a narrow black streak. Crown of the head, neck, and breast, black. Back, wing-coverts, and scapulars, fine french-grey, passing into brownish-black towards the tips of the feathers, which are white. Greater quills greyish-black, except the lower part of the outer web in each, which is light grey. Upper tail-coverts white. Tail black. Under parts silvery-white; undulated upon the flanks with ash-grey. Tibiæ clothed with black feathers. Bill black. Legs and toes black. Tubercle near the bend of the wing prominent.

General
descrip-
tion.
Adult.

The female resembles the male bird.

The young of the year have the streak between the bill and eye much broader than the adults; and the forehead is spotted with black. The under parts are not of so pure a white; and the flanks are of a more uniform ash-grey. The upper parts of the body are darker, and the tips of the feathers are margined with reddish-white. Legs black, tinged with reddish-brown.

Young.

BRENT GOOSE.

ANSER BRENTA, Flem.

PLATE XLV.

- Anser Brenta, *Flem.* Br. Anim. 1. 127. sp. 199.
 Anas Bernicla, *Linn.* Syst. 1198. 13.—*Gmel.* Syst. 1. 513.—*Lath.* Ind. Orn. 2. 844. sp. 32.—*Wils.* Amer. Orn. 8. 121. pl. 72. f. 1.
 Bernicla Brenta, *Steph.* Shaw's Zool. 12. 46.
 Brenta, *Briss.* Orn. 6. 304. 16. p. 31.—*Raii* Syn. 130. 8.—*Will.* 275. t. 69.
 Le Cravant, *Buff.* Ois. 9. pl. 87.
 Oie Cravant, *Temm.* Man. d'Orn. 2. 824.
 Ringel Gans, *Bechst.* Naturg. Deut. 4. 911.—*Meyer*, Tasschenb. 2. 558.
 Brent or Brand Goose, *Penn.* Br. Zool. 2. 579, No. 270.—*Aret.* Zool. 2. No. 478.—*Albin's* Birds, 1. pl. 93.—*Will.* Angl. 360.—*Lath.* Syn. 8. 467.
 27.—*Levin's* Br. Birds, 7. pl. 243.—*Mont.* Orn. Dict. 1. & Sup.—*Bewick's* Br. Birds, ed. 1826, t. 300.—*Wils.* Amer. Orn. 8. 145. pl. 92. f. 1. mas.
 Brent Bernicle, *Steph.* Shaw's Zool. 12. 46.

PROVINCIAL.—Rat or Road Goose, Clatter Goose, Horra Goose, Juink Goose, Ware Goose.

Periodical
visitant.

THIS species is, like the preceding one, a winter visitant; inhabiting the oozy bays and shores of the eastern and southern coasts of the kingdom, where a supply of the marine vegetable food upon which it subsists is principally produced. Upon the Northumbrian coast a very large body of these birds annually resorts to the extensive muddy and sandy flats that lie between the mainland and Holy Island, and which are covered by every flow of the tide. In this locality tolerably sized flocks usually make their appearance in the early part of October, which are increased by the repeated arrival of others till the beginning of November, at which time the equatorial movement of the species in this latitude seems to be completed. This part of the coast appears to have been a favourite resort of these birds from time immemorial, where they have always received the name of *Ware Geese*, given to them, without doubt, in consequence of their food consisting entirely of marine vegetables. This

Food.

I have frequently verified by dissection; finding the gizzard filled with the leaves and stems of a species of grass that grows abundantly in the shallow pools left by the tide, and with the remains of the fronds of different algæ, particularly of one which seems to be the *Laver* (*Ulva latissima*). These were mixed with a considerable quantity of sharp sand, but without any portion of animal or shelly matter; although WILSON states that they feed occasionally upon small univalve and bivalve mollusca. In this haunt they remain till the end of February, when they migrate in successive flocks, as the individuals happen to be influenced by the season, and before April the whole have disappeared. When they depart, the same procedure as that mentioned by WILSON (in his American Ornithology) takes place; the flock about to migrate rises high into the air by an extensive spiral course, and then moves off seaward in a northerly direction. When feeding (which they do at the ebb of the tide), or moving from one place to another, they keep up a continual hoarse cackling, or, as it is termed, *honking* noise, which can

be heard at a great distance, and has not unaptly been compared (when so heard) to the cry of a pack of hounds. They are at all times extremely watchful, and can only be approached within gunshot by the person of the shooter being concealed. This is effected in the southern parts of the kingdom by means of a flat-bottomed boat, so built as to draw very little water, and whose gunwale barely rises above the surface, armed with a large fowling-piece, that traverses the half-deck upon a swivel. In this boat the fowler lies flat, and directs its motion by a paddle or small oar, till he comes within range of the flock; when he fires, either as they float upon the water, or just as they rise. Great havoc is sometimes made in this way, not only amongst the Brent Geese, but amongst Widgeon, and other kinds of wild fowl, as we learn from Colonel HAWKER's amusing treatise, to which I refer my readers, and where they will find every direction necessary for this particular kind of sporting*. Previous to this mode of shooting being adopted, all the Brent Geese, and different species of Ducks upon our northern coast, were killed by moonlight, by the fowlers placing themselves in various parts of the lake, seated on a bundle of straw, and patiently waiting for the approach of the wild fowl, as they flew about in quest of feeding places. The destruction, however, in this way was very limited; the number that fell to the gun of an individual during the whole season perhaps did not equal the fruits of a single day's sport with the boat and its swivel gun. Like the rest of the genus, the Brent Goose never dives in search of food; but that this does not arise from any incapability of submer-sion, as has been supposed, is evident from the ease with which it plunges, and the great distance it can go under wa-

* Upon the Holy Island sandy flats, where the above method was introduced, about two years ago, by a man from the Norfolk coast, I am credibly informed that twenty-two Brent Geese were killed and secured at one discharge during this season, 1831.

ter, when winged or otherwise wounded, rendering it in such case a very difficult bird to secure. Its geographical distribution is confined to the northern parts of Europe and North America. During the winter, besides the coasts of our own islands, it is spread along those of Holland, France, and parts of Germany, as well as of the more northern kingdoms. Occasionally, and under peculiar circumstances, these birds have appeared in certain parts in unusual numbers. Thus in the years 1739 and 1765, from the long continuance of a strong north wind, they became so abundant on the coast of Picardy, and committed such depredations on the young corn in that district, that the inhabitants were compelled to rise *en masse*, in order to destroy them; and on the English coast, during the same seasons, where food failed the congregated numbers, they became so weak as to be knocked down with sticks and stones. The same thing occurred in the severe winter of 1803, when they were innumerable about Sandwich, and so much reduced in condition, as frequently not to be able to rise after alighting. Their polar or summer migration is directed to very high latitudes, where they breed, and rear their numerous young in quiet security. The nest is formed of vegetable materials, in the swamps of those desolate regions, and they lay ten or twelve white eggs. The trachea of the male bird is slightly enlarged a little below the glottis, and again near its entrance within the merry-thought (*os furcatorius*); below which it becomes contracted, forming a narrow cartilaginous tube. The bronchi are funnel-shaped, and composed of entire solid rings. When captured alive, this goose may soon be rendered very tame (as I have found from experience), and being a bird of handsome figure, and light carriage, is a considerable acquisition on large pieces of water. No steady attempts, however, appear to have been yet made to increase the breed in a domestic state, though as an article of food it is superior to most of the *Anatidæ*, and equally valuable in the quality of its feathers and down. When

Nest, &c.

tame, it eats readily all kinds of grain, as well as grass, and other vegetable diet.

PLATE 45. represents this bird of the natural size.

Bill black. Irides brown. Legs and feet black, with a tinge of reddish-brown. Head, neck, and upper part of breast black. On each side of the neck, about half way down, is a patch of white. Back, scapulars, and wing-coverts, clove-brown; the feathers having their tips and margins paler. Under parts of the body french-grey; with the feathers margined paler. Vent, upper and under tail-coverts, white. Lower part of back, and rump, black. Quills and tail black.

General
description.

Adult.

The female is less than the male bird, but similar in plumage.

The young of the year have not the white patch upon the neck; and this part, the head, and upper part of the breast, are blackish-grey. The back and wing-coverts are tipped with brown; and the legs are paler, or more inclining to brown than in the older birds.

Young.

RED-BREASTED GOOSE.

ANSER RUFICOLLIS, Pall.

PLATE XLVI.

Anser ruficollis, Pall. Spic. 6. 21. t. 4.—Flem. Br. Anim. 1. 128.
Anas ruficollis, Gmel. Syst. 1. 511.—Lath. Ind. Orn. 2. 841. sp. 23.
Bernicle ruficollis, Steph. Shaw's Zool. 12. 53. pl. 43.
Anas torquata, Gmel. Syst. 1. 514. sp. 70.
Oie à Cou roux, Temm. Man. d'Orn. 2. 826.
Die rothals Gans, Bechst. Naturg. Deut. 4. 916.—Meyer, Tasschenb. 2. 561.
Red-breasted Goose, Penn. Arct. Zool. 2. 571.—Lath. Syst. 6. 455.—Lewin's
Br. Birds, 7. pl. 241.—Mont. Orn. Dict. 1.—Bewick's Br. Birds, ed. 1826,
p. t. 280.
Red-breasted Bernicle, Steph. Shaw's Zool. 12. 53. pl. 43.

IN this beautiful species the bill is very short, being much less than that of the Bernicle; but as it seems, as far as I

Rare visitant.

can judge from dried skins (never having had the opportunity of examining a fresh specimen), to possess all the essential characters, I have accordingly retained it amongst the other species of the genus *Anser*.—It is known in Britain only as a rare visitant, when driven by tempestuous weather out of the usual course of its migrations. But five or six instances of its capture are on record: the first occurred near London in the year 1776, and the specimen passed into the hands of Mr TUNSTALL, and from it (now in the Museum at Newcastle-upon-Tyne) the figure in the present work has been taken;—in the second instance, this bird was caught alive near Wycliffe, and was kept by the above mentioned gentleman for some years in confinement;—a third, shot near Berwick-upon-Tweed, was sent to Mr BULLOCK, in whose museum it remained till the dispersion of that celebrated collection;—the others, according to Mr STEPHENS, were killed in the severe winter of 1813, in Cambridgeshire, but unfortunately, from the ignorance of the captors, were lost to the purposes of science. This species is a native of the Arctic Regions of Northern Asia, and during its polar migration is said to retire to Siberia and the confines of the Frozen Ocean, where it breeds and rears its young. According to TEMMINCK, it is abundant about the mouths of the rivers Ob and Lena at the above season. During the winter it migrates southward to the warmer districts of Russia, and to Persia; and is plentiful about the shores of the Caspian Sea, but of very rare occurrence in any part of Europe. I am unable to give any detailed account of its habits, but they may be presumed similar to those of its near allies, the Bernicle and Brent Geese; and that it feeds on vegetable diet appears evident from its flesh being pronounced free from any fishy taste, and in great esteem for the table.

PLATE 46. Figure of the natural size; from a specimen originally in the Wycliffe Museum, but now in that of the Natural History Society of Newcastle-upon-Tyne.

Forehead, crown of the head, list down the back of the neck, chin, throat, and band, extending upwards to the eye, black. Between the bill and eye is a large spot of white. Behind the eye, and surrounding a large patch of orange-brown on each side of the neck, is a list of white; which is extended farther, and forms a line of division between the orange-brown and black of the lower part of the neck. Front of the lower part of neck and breast fine orange-brown; the latter margined by a list of black, and another of white. Immediately before the shoulders is a second bar of white. Mantle, belly, wings, and tail, black. Abdomen, vent, thighs, upper and under tail-coverts, white. Greater wing-coverts black, margined with white. Bill reddish-brown, with the nail black. Legs blackish-brown, with a reddish tinge.

General
description.

SUBFAMILY CYGNINA.

GENUS CYGNUS, MEYER. SWAN.

GENERIC CHARACTERS.

BILL equally wide throughout its length, much higher than broad at the base, where it is swollen or tuberculated; depressed towards the tip; nail of the upper mandible deflected, and covering that of the lower, which is flat. Both mandibles laminato-dentate, with the lamellæ placed transversely, and nearly hidden from view when the bill is closed.

Nostrils oblong, lateral, placed in the middle of the bill.

Neck long. Wings long and ample.

Legs placed behind the equilibrium of the body, short. Feet four-toed, three before and one behind; the front ones entirely webbed, the hinder toe small and free.

Plumage thick, close, and adpressed; that upon the neck soft and downy.

These birds, so conspicuous amongst the Anatidæ by their superior size and graceful appearance upon the water, are distinguished from the Geese by the form of the bill, which is as wide towards the tip as at the base, approaching nearer in shape to that of the Ducks. The neck is also more elongated, and the backward position and comparative shortness of the legs, by indicating an increased power of swimming, with a diminished activity in walking on land, brings them into closer connexion with the natatorial tribes of the family. Their food principally consists of the roots, stems, and leaves of aquatic plants; the former of which they are enabled to reach in water of some depth by their great length of neck. With them the intestines and cæca are very long; and although the trachea does not possess any labyrinth or ampulla, in some species it performs certain convolutions before it enters the lungs. Their flight, from the full development of wing, is strong and rapid.

WHISTLING SWAN.

CYGNUS FERUS, Ray.

PLATE XLVII.

Cygnus ferus, *Raii* Syn. 136. A.—*Will.* 272. t. 69.—*Briss.* Orn. 6. 292. pl. 28.—*Steph.* Shaw's Zool. 12. 10. pl. 37.—*Flem.* Br. Anim. 1. 126. sp. 194.

Anas Cygnus (*ferus*), *Linn.* Syst. 1. 194.

Anas Cygnus, *Gmel.* Syst. 1. 501.—*Lath.* Ind. Orn. 2. 833. sp. 1.

Cygne sauvage, *Buff.* Ois. 9. 3.—*Id.* Pl. Enl. 913.

Cygne à bec jaune, ou sauvage, *Temm.* Man. 2. 828.

Le Cygne à bec noir, *Cuv.* Reg. Anim. 1. 529.

Der Singschwan, *Bechst.* Naturg. Deut. 4. 330.—*Meyer*, Tasschenb. Deut. 2. 498.

Wild Swan, *Penn.* Br. Zool. 2. 562. No. 264.—*Will.* (Angl.) 356. t. 69.—*Edw.* Glean. t. 150.—*Rennie's* Mont. Ornith. Dict.—*Bewick's* Br. Birds, ed. 1826. p. t. 265.—*Flem.* Br. Anim. 1. 126. sp. 194.

Whistling Swan, *Penn.* Arct. Zool. 2. 469.—*Lath.* Syn. 6. 433.—*Id.* Sup. 272.—*Id.* Sup. 2. 341.—*Lewin's* Br. Birds, 6. pl. 236.—*Mont.* Orn. Dict. and Sup.—*Shaw's* Zool. 12. 10. pl. 37.

PROVINCIAL.—Elk, Hooper, Hooping Swan.

THIS handsome and stately bird is known in the Orkneys and Western Islands of Scotland as a regular winter visitant; but in England its appearance is not so certain, being governed by the state of the season. Should the winter prove generally mild, such as we have just experienced (1831-2), few, if any, Swans are seen; as, under such circumstances, they are able to obtain subsistence in higher latitudes. It is only, therefore, when the winter sets in with unusual rigour in the northern parts, and the lakes and rivers (their source of food) become entirely frozen over, that they extend their equatorial migration to more temperate climates. In such seasons they usually appear with us in small flocks, from five perhaps to thirty together, that take up their abode upon the lakes, rivers, and inundated meadows; and where, if unmolested, they will remain till March, or the approach of spring, when they again wing their way to the regions of the north. On referring to the seasons in which Swans have appeared in more than usual numbers in this country, they will all be remembered as remarkable for the severity and long continuance of frost. Thus in 1784-5, and in 1788-9, these birds were remarkably numerous, and extended their flight to unwonted southern latitudes, having visited Champagne and other parts of France, as well as some of the larger rivers beyond the Alps. In the winters of 1813, 1814, 1819, 1823, 1828, and 1829, all more or less severe, they were very commonly met with in different parts of England, and occasionally destroyed in great numbers, as may be gathered from the statement of Mr COOKE, in his description of the Whistling Swan, viz. that in 1823, sixty of these birds were exposed for sale in London in one day*. It is probable that some of these might belong to the recently discovered species, *Cygnus Bewickii*, which there is now

Periodica.
visitant.

* To this scientific account of the present bird I refer my readers. It is entitled "A Letter to M. MILBANKE, Esq. descriptive of the Whistling Swan, and of the peculiar Structure of its Trachea," and published in 1823.

every reason to suppose has visited this country for many years, although constantly confounded with the present species, to which, in outward appearance, it bears a very close resemblance, being only rather inferior in size. The geographical distribution of these birds embraces the northern regions of Europe, Asia, and America, in all of which they are abundantly found. In summer they retreat to very high latitudes to breed and rear their young, and those inhabiting our parallel of latitude are then to be met with scattered over Norway, Iceland, Lapland, Spitzbergen, &c. In Asia they are numerous in Kamschatka, Northern Siberia, and other polar districts of that continent, and they are described as abounding on the unfrequented borders of the upper lakes of North America; and are mentioned in Captain FRANKLIN's Journal as amongst the first birds of passage that come from the south upon the breaking up of the long polar winter. In these dreary regions, where man finds but a precarious subsistence by fishing and the chase, the return of the Swan is anxiously looked for, on account of the various benefits it confers; its flesh and eggs affording wholesome and invigorating food, and its skin, when dressed with the down, supplying a variety of clothing, of remarkable softness and warmth. A few pairs, it is said, occasionally remain upon some of the outer Orkney Islands, and there breed upon the margins of the fresh water lochs; but these can only be considered as stragglers, the great body retiring (as I have above remarked) to higher latitudes for that purpose.—The nest of the Wild Swan is formed of the withered parts of reeds, rushes, and other aquatic herbage, to a considerable thickness*; and the eggs, from five to seven in number, are of a pale oil-green or greenish-white colour. In six weeks the young are excluded, but it is upwards of three months before they become fully fledged. In Iceland, to the inha-

Nest, &c.

* Captain LYON, in his Private Journal, during the voyage of discovery under Captain PARRY, mentions the nest of a Swan found upon Winter Island. He describes it as formed of small pieces of peat, in size five-feet ten inches by four feet ten inches, and two feet in height.

bitants of which the down and feathers are of great value, not only for domestic comfort, but as an article of barter, they are hunted down and killed in great numbers in the month of August, at which time the old birds are unable to fly, from having cast their quill-feathers. At this season the natives assemble in bodies, in the places where Swans are most abundant, attended by dogs, and mounted upon small but active horses, purposely trained to pass over bogs and through marshy soil; the chase then commences, and many are ridden down; but the greater number are caught by the dogs, which always seize by the neck, a mode of attack that causes the bird to lose its balance and become an easy prey. The fabulous account of the sweet singing of the Swan before death, which gave rise to so much beautiful allusion in the writings of the ancient poets, is now universally exploded*; and the voice of the present species (oftener heard than that of any other) is generally allowed, when produced singly, to be piercing and harsh. It consists of two notes, and has (not unaptly) been compared to the discordant union of the modulation of the Cuckoo, with the scream of the Gull, or the sound of the clarionet in the hand of a beginner. Some, however, still assert, that when on the wing in large flocks, or resting on the water, their united cries, becoming softened by distance, are not unpleasant to the ear. This I can readily believe, for, under such circumstances, I have even found the incongruous mixture of sound from Gulls, Guillemots, and other tribes of sea fowl (when collected about their breeding stations) mixed with the whistling of the breeze, and the murmurs of the intervening water, to reach the ear not very dissimilar to that of a band of martial music; and I have before observed, in the account of the Brent Goose, that the tumultuous cackling of those birds

* See PENNANT's description of the Tame Swan in his "British Zoology," where he has treated the subject with the classical knowledge and taste for which he was conspicuous, and traced the source from whence this fable appears to have originated.

(harsh as it may be individually), when heard at a distance, has been compared to the enlivening cry of a pack of hounds. To the known effect produced by the association of ideas must doubtless be attributed the great pleasure which the Icelanders display upon hearing the cries of the Swan, which they compare to the notes of a violin; but as a writer justly observes, this is not to be wondered at, for they hear them at the termination of a long and dreary winter, when the return of this bird to their shores is the earliest harbinger of spring, foretelling a speedy thaw and release from a tedious confinement. In dimensions and weight the present species is commonly less than *Cygnus Olor*, in its tame or semi-domesticated state, though adult males are sometimes met with that equal the average size of the latter. It may, however, always be distinguished from it externally by the different form and colour of the bill, the position of the legs, difference of carriage, along with other peculiarities; and internally, the conformation of the trachea exhibits a remarkable difference. This part, instead of being a strait and simple tube, as in *Cyg. Olor*, is prolonged, and enters a large cavity hollowed out of the keel of the sternum, generally to the depth of three and a-half or four inches, where it is doubled back upon itself like a trumpet; and which inflection is always *vertical*, never forming a *loop* or horizontal bend, as in *Cygnus Bewickii*. After its egress from this cavity, the tube is again turned upwards, and then, undergoing a considerable diminution in diameter, terminates exactly upon the ridge of the sternum in a compressed bony lower larynx, or bone of divarication, shaped like the mouth-piece of a bassoon, and to which the bronchi, measuring upwards of three inches in length, are attached. The flight of the Swan is usually at a great elevation, and in a straight line; and as its wings are long and ample, its progress, with a favouring breeze, is astonishingly rapid, and has been reckoned to exceed sometimes 100 miles in an hour. This velocity renders it a difficult bird to shoot on wing, where so much allowance

is necessary to be made, according to the supposed distance of the object. When caught alive, it soon becomes very tame, as seen in the instance mentioned by MONTAGU; and I have also, in several cases, known it survive for a long time, and thrive well, when provided with plenty of water; it refuses, however, to associate with the common or mute species.—The food of the Swan consists of the roots, leaves, and stems of aquatic plants, in obtaining the former of which its length of neck is of essential service, which it has also the power of keeping submerged for a long time; but as this is done by the mute species perhaps in an equal degree, it cannot be attributed to the peculiar form of the trachea, an idea that has been suggested by different ornithologists. In the present species, the elastic process or joint, in the upper mandible, which enables it to be opened to a considerable extent, is very prominent, and more easily distinguished than in many others of the Anatidæ, in whom it is hidden by the knob, or by the feathers of the brow. When swimming, the neck is borne erect, at a right angle with the body, and seldom arched, as is the custom of the Common Swan; but in walking (which is performed in a heavy and awkward manner), the head is lowered, and the neck reclines over the back, in order to preserve the equipoise of the body.

Food.

PLATE 47. Represents this bird in scarcely one-third of the natural size.

Average length five feet; breadth from seven to eight.

General description.

Bill four inches long from the tip to the brow, black, and having the basal part covered with a lemon-yellow-coloured cere, that, extending backwards, encircles the eyes. Head and nape of the neck generally speckled with pale orange-yellow; the rest of the plumage in adults being pure white. Legs black.

Adult.

The young birds are of an uniform pale grey, with the cere and naked skin around the eyes pale flesh-red. Legs reddish-grey.

Young.

BEWICK'S SWAN.

CYGNUS BEWICKII, Yarrell.

PLATE XLVII. *

Cygnus Bewickii, Yarrell in Trans. Linn. Soc. 12. 445.—*Selby* in Trans. Nat. Hist. Soc. of Northumberland, Durham, and Newcastle, vol. 1. 18.
—*Jardine* and *Selby's* Illust. of Orn. pl. 95.
New Species of Swan, *Wing*. Trans. Nat. Hist. Soc. Northumberland, Durham, and Newcastle, 1. 1.
Bewick's Swan, *Jardine* and *Selby's* Illus. of Orn. pl. 95.

Periodical
visitant.

THIS recently discovered species, in size about one-third less than the Whistling Swan, is also amongst the number of our British winter visitants; and though less numerous as a species than the other, is occasionally met with in England during every severe winter. The merit of the first discovery of the present species is due to Mr RICHARD WINGATE of Newcastle-upon-Tyne, who, in consequence of the observations he had made upon two specimens of Wild Swans killed in the neighbourhood, in the winter of 1828-9, read a paper before the Literary and Philosophical Society of that town, stating the peculiarities he had noticed in these birds, as well in outward form, as in internal structure, and also his opinion that the differences exhibited were of sufficient importance to entitle them to rank as a distinct species, both from the preceding one and also from the tame Swan (*Cygnus Olor*). These remarks induced other naturalists to investigate the subject, and Mr YARRELL, whose knowledge as an ornithologist, and whose discrimination as a comparative anatomist, stand deservedly high, soon discovered additional proofs of the correctness of Mr WINGATE's views, and, at his suggestion, the appellation of *Cygnus Bewickii* was conferred upon the species. Since that period, several specimens of the bird have been obtained, and its distinguishing characters have been illustrated and fully described by Mr

YARRELL in a paper published in the sixteenth volume of the Linnean Transactions; and also in another, contained in the first volume of the Transactions of the Natural History Society of Northumberland, Durham, and Newcastle, to which I beg to refer my readers. In external appearance the present bird bears a very close resemblance to the Whistling Swan, and might, upon a cursory view, be easily mistaken for a small variety of it, as must have frequently happened previous to the observations made by Mr WINGATE; for the detection of several specimens that have remained for many years in private collections, under the above designation, shew that the species is not a new arrival, but may have been in the habit of visiting this country, in connexion with the former, for an indefinite period, although not in such numbers as its companion. The peculiarity of the internal structure had previously attracted some notice; for MONTAGU, in the Supplement to his Ornithological Dictionary, under the article *Whistling Swan*, gives an accurate description of the trachea and sternum of a bird of this new species; and which, from having been observed in a male specimen, he, without extending his examination, or noticing its other peculiar features, supposed indicative of, and confined to, the male of the species then under his consideration. The external characters distinctive of the new species, are, in the first place, being about one-third less than the usual size of the preceding (the average length of *Cyg. Bewickii* being three feet ten inches, and the breadth six feet; whilst that of *C. ferus* is five feet, and the breadth upwards of eight); secondly, in the colour and form of the bill, which differs at its base from that of the Whistling Swan, and, in old birds, has at the junction of the upper mandible with the cranium a considerable tubercle or knob; and, thirdly, in the number of the tail-feathers, the present species having only *eighteen* and the other *twenty*. The wings are also shorter, and do not cover so large a portion of the tail; the legs are of a deeper black, and the neck, besides being comparatively

longer, is more slender than in the Whistling Swan. In internal conformation, particularly as regards the trachea and sternum, the differences are very striking. In the new species, the cavity of the sternum, instead of being restricted to a depth of three inches, or three and a quarter (as I have before stated it to be in the Whistling Swan), is frequently found to extend to five and a half or six inches, and, after reaching the posterior extremity of the keel, to occupy in addition a portion of the lateral part of the sternum; and here the trachea, instead of making a *vertical flexure*, as in the preceding species, is forced to take a *horizontal bend*, and to form a loop, as it were, in the excavated part of the sternum. The keel of *C. Bewickii*, also, is not so deep as that of the other, and consequently the two portions of the trachea within the arched cavity are brought closer together. Other marked differences are observable in the trachea of the new species after its egress from the cavity of the sternum, as compared with the corresponding parts of the other. In it the trachea, after describing the bend, on its egress from the keel, enters into the cavity of the thorax for upwards of two inches, and is then attached by the lower larynx (or bone of divarication) to the bronchial tubes; in the Whistling Swan, on the contrary (as I have previously stated), no portion of the trachea enters within the thorax, but the lower larynx reaches just as far as the anterior ridge of the sternum, upon which it rests obliquely. The dimensions of the trachea where it joins the lower larynx, and that part itself, are very dissimilar in the two species, the present one having the diameter as large at that junction as at any other part of the tube, and the larynx short, broad, and but slightly compressed. In the size and form of the bronchi, also, there is considerable difference, their length and diameter being scarcely equal by one-half to those of the Whistling Swan, and the rings of which the tubes are composed being of a different shape. In addition, the sternum of *C. Bewickii* is much broader in comparison to the size of the bird, and the

ridge of the keel, instead of narrowing downwards as in the other species, gains breadth as it approaches to the posterior extremity of the keel, or where the cavity widens and occupies a lateral portion of the sternum. In its habits the present bird resembles the Whistling Swan, and is, like it, a native of the Arctic Regions of Europe, Asia, and *America*, as it would appear to be the *Lesser Swan* mentioned by HEARNE (in his "Journey to the Northern Ocean") as visiting Hudson's Bay in summer.—It feeds upon aquatic vegetables and seeds. As might be expected from the form of the lower larynx, and that part of the trachea adjoining it, its voice is much weaker than that of the preceding species. Food.

PLATE 47.* Represents the *Cyg. Bewickii* of nearly one-half the natural size.

Bill, as far as the nostrils, black; the base orange-yellow; and the upper mandible having a tubercle or knob, varying in size according to the age of the bird. Fore-head and region of the eyes with numerous specks of a pale orange-yellow. In adults, the rest of the body pure white, and in the young pale-grey. Tail wedge-shaped, and consisting of eighteen feathers. Legs black. General description.

SUBFAMILY ANATINA.

GENUS TADORNA, FLEM. SHIELDRAKE.

GENERIC CHARACTERS.

Bill shorter than the head, higher than broad at the base, depressed or concave in the middle, with the tip flattened and turning upwards, nearly of the same breadth throughout; dertrum, or nail, abruptly hooked. Upper mandible laterally grooved near the tip; under mandible much narrower than the upper one, and, when closed, hidden by the deflected

tomia of the upper. Both mandibles having prominent transverse lamellæ. Nasal fosse near the base of the bill ; nostrils oval, lateral, pervious.

Wings of mean length, acute, tuberculated ; with the second quill-feather the longest.

Legs of mean length, with the tibiæ naked for a short space above the tarsal joint. Tarsus rather longer than the middle toe. Toes four, three before and one behind ; the front ones rather short, and entirely webbed ; hind toe barely touching the ground with the tip of the nail. Claws slightly hooked, the inner edge of the middle one being dilated.

The Shieldrakes are distinguished from the other nearly allied genera by the form and curvature of the bill. From the length and position of their legs (being placed almost in the centre of the body), they are active upon land, walking and running with apparent ease ; and their general contour is handsome. Their alliance with the Geese seems to be maintained by the intervention of the Egyptian Goose (*Chenelopez Egyptiaca*), which, in many points, both of outward form and internal structure, shews a decided approach to this genus. They are the inhabitants of the coast, and also of the rivers and lakes of the interior, feeding on vegetables, seeds, insects, and molluscous animals. Their nests are made in the clefts of rocks, in the deserted burrows of rabbits, &c., and sometimes in the hollows of decayed trees. The trachea of the male birds possess a labyrinth (*ampulla*) at the divarication, consisting usually of two membranous bladders of a very delicate texture. The sexes are nearly similar in plumage.

COMMON SHIELDRAKE.

TADORNA VULPANSER, Flem.

PLATE XLVIII.

- Tadorna Vulpanser, Flem.* Br. Anim. 1. 122. sp. 185.
Tadorna Bellonii, Steph. Shaw's Zool. 12. 72. pl. 45.
Anas Tadorna, Linn. Syst. 1. 195. 4.—*Gmel.* Syst. 1. 506. 4.—*Lath.* Ind. Ornith. 2. 854. sp. 56.—*Raii* Syn. 140. A. 1.—*Will.* 278. t. 70.—*Briss.* Ornith. 6. 344. 9. t. 33. f. 2.
La Tadorne, Buff. Ois. 9. 205. t. 14.—*Id.* Pl. Enl. 53.
Canard Tadorne, Temm. Man. d'Ornith. 2. 834.
Brandente, Bechst. Naturg. Deut. 4. 976.—*Meyer,* Taschenb. Deut. 2. 534.
Shieldrake, Br. Zool. 2. 589. No. 278.—*Arct.* Zool. 2. 972. D.—*Will.* (Angl.) 363. t. 70. 71.—*Albin,* 1. t. 94.—*Lath.* Syn. 6. 504. 51.—*Id.* Sup. 275.—*Levin's* Br. Birds, 7. pl. 248.—*Mont.* Ornith. Dict. 2. and Sup.—*Bewick's* Br. Birds, ed. 1826. p. t. 341.
Burrow Shieldrake, Steph. Shaw's Zool. 12. 72. pl. 45.
Common Shieldrake, Flem. Br. Anim. 1. 122. sp. 45.
PROVINCIAL.—Bergander, Shieldrake, Burrow Duck, Pirennet, Sly-goose, St George's Duck, Stockannet, Skelgoose, Skeeling-goose.

THIS bird, distinguished by its parti-coloured plumage and graceful shape, is one of the few amongst the *Anatidæ* that can be called indigenous, being found at all seasons of the year upon various parts of the British coast. It is strictly a maritime species, as it is very rarely seen on the rivers or lakes of the interior of the country, and it has even been doubted by some, whether it can long exist without having access to salt water. A sufficient refutation of such an idea is the well known fact of its thriving well when confined to fresh water ponds. The Shieldrake continues in its native haunts through the whole year, and when once paired, seems to live with the same mate till accident or death dissolves the connexion. MONTAGU remarks that the males do not appear to attach themselves to the females till the second year, when they have acquired the adult plumage; and I have also observed this to be the case on the Northumbrian coast, where these birds are common upon such parts as present a barrier of sand-hills, the chosen breeding resort of this species. In

addition, however, to those that reside permanently on our shores, we are visited by considerable numbers during their periodical flights to and from the more northern countries of Europe. In the beginning of March I have sometimes seen hundreds together upon a favourite locality, where they have continued for a few days, and then departed for higher latitudes, this being the time of return from their equatorial or winter migration. The species is distributed throughout the greater part of Europe, and is found as far to the northward as Iceland, where it is only a summer visitant. The rabbit-burrows, with which the sand-hills of the coast are so often perforated, are the places that the Shieldrake usually selects for nidification; and in such of these as have been deserted by the original inhabitants, the females form their nests of bent grass and other dry vegetable materials (sometimes as far as ten or twelve feet from the entrance), lining them with fine soft down plucked from their own breasts. They lay from twelve to sixteen eggs, each pure white, or with a very faint tinge of green, and of an oval form, being equally rounded at both ends. These are incubated for thirty days before the exclusion of the young, this being the period common to most of the *Anatidæ*. During this time the male bird keeps an attentive watch in the immediate vicinity of his mate, and when hunger calls her from her charge, he instantly supplies her place, and covers the eggs till her return. As soon as the young are hatched, they are conducted, or, as more frequently happens, carried in the bill by the parents to the water's edge, and upon this their native element they immediately launch, seldom quitting it till fully fledged and well able to fly. BEWICK observes, that if the family in their progress from the nest to the sea should happen to be interrupted by an intruder, the young ones seek the first shelter, and squat close down, whilst the parents, directed by the instinctive feeling that so universally prevails throughout the feathered race at this interesting period, adopt the same kind of stratagems as the Partridge, Wild Duck, &c. feigning

lameness and inability of flight, in order to attract attention and divert the pursuit to themselves. As the Shieldrake is much prized as an ornamental appendage to large pieces of water, for its handsome form and varied plumage, the inhabitants of the coast are in the practice of watching the old birds to their nests during the early part of the breeding season, and digging up the eggs. These are placed under a hen or tame duck ; but great care and attention is requisite in rearing the young, and it is seldom that above three or four survive from a hatching of a dozen eggs. They soon become tolerably tame, and answer to the call of the person who feeds them ; when fully fledged, however, being very active birds, they are apt to stray away, and if left with their pinions unmutilated, generally in time fly entirely off, though I have known them return, in two or three instances, after an absence of many months. They are seldom known to breed in a state of confinement ; one instance, and that in my own neighbourhood, has come to my knowledge, and MONTAGU mentions another case, in which the birds, after a lapse of many years, and in a very favourable situation (having the range of an extensive canal), produced a brood of nine. The defect rests, in his opinion, with the female, as she constantly appears coy, although strongly urged by the other sex, who seem to have all the necessary inclination ; and this, he adds, appears more likely, as the Shieldrake has been known to breed with the female of the Common Duck, in Lord Stanley's menagerie. Such a cross, however, is rarely effected, and only takes place under peculiar circumstances, as I have never been able to obtain a mixed progeny, even when the species have been kept together for several years. Upon the approach of spring, the fleshy knot at the base of the upper mandible of this bird, and which, during the autumn and winter, is scarcely perceptible, begins to swell, and acquires a beautiful *crimson* hue, and when at its full development, is nearly as large as a marble. At this season, also, the males pay particular court to the females, erecting

themselves, and uttering a shrill whistling note, repeated with great quickness, and attended with a frequent movement of the head; they are also very jealous and irascible at the approach of any other bird to their mates.—The food of the Shieldrake, in its wild state, consists of marine vegetables, molluscous shell-fish, insects, &c.; but when domesticated, it thrives well upon grain, and indeed upon the usual fare of poultry. The trachea of the male bird is furnished, at the divarication, with a curious labyrinth, composed of two thin membranous bladders, of which the one on the right side is the largest; the surfaces of both are uneven, and their texture so delicate, as to be indented or broken by a very slight pressure. In the young drakes, previous to the acquisition of the mature plumage, it is very small, but after that period soon attains its full development.

PLATE 48. Represents the adult male of the natural size, taken in spring, when the fleshy tubercle at the base of the bill becomes much enlarged.

General
description.
Adult.

Head and upper part of the neck blackish-green, shewing glossy reflections as opposed to the light. Lower part of the neck, sides of the body, wing-coverts, lower part of the back, upper tail-coverts, and basal part of the tail, pure white. A broad pectoral band of fine orange-brown extends upwards, and forms a mantle of the same colour. Scapulars, mesial abdominal list, greater quills, and end of the tail, black. Secondaries, with their outer webs, rich bronzed-green, and forming a speculum; and the three tertials next to them, with part of their outer webs, rich orange-brown. Under tail-coverts sienna-yellow. Bill bright venous blood-red. Legs and toes crimson-red.

The female is similar to the male bird in markings, but the colours are not so deep and bright, and she is always much less.

Young.

The young, previous to the first moult, differ considerably

from the adults. The bill and legs are of a pale flesh-red. The forehead, cheeks, fore part of the neck, and the whole of the under parts are pure white. The crown, nape, and back part of the neck are blackish-brown. Wing-coverts having the feathers tipped with deep-grey, giving them a mottled appearance. Feathers forming the speculum tipped with white.

RUDDY OR CASARKA SHIELDRAKE

TADORNA RUTILA, Steph.

PLATE XLVIII**.

Tadorna rutila, Steph. Shaw's Zool. 12. 71.
Anas Casarka, Linn. Syst. 3. App. 224.—Gmel. Syst. 1. 511.—Lath. Ind. Ornith. 2. 844. sp. 24.
Anas cana, Lath. Ind. Ornith. 2. 840. sp. 22.
Anas rutila, Pall. Nov. Com. Petrop. 14. 579.
Canard Kasarka, Temm. Man. d'Ornith. 2. 832.
Ruddy Goose, Lath. Syn. 6. 456.—Id. Sup. 273.
Grey-headed Goose, Brown, Illus. Zool. 104. t. 41.
Grey-headed or Ruddy Goose, Fox, Syn. Newcas. Mus. 142. No. 328.
Ferruginous Duck, Bewick's Br. Birds, ed. 1826. p. t. 313.

THE only British specimen of this rare and handsome duck, previous to the one from which the present figure and description are taken, is now in the Newcastle Museum, and its authenticity has been clearly established by Mr Fox, in his Synopsis of that part of the collection formerly known as the *Allen* or *Wycliffe* Museum. This bird was shot, it appears, at Bryanstone, near Blandford in Dorsetshire, the seat of Mr PORTMAN, in the severe winter of 1776; the same frost of which season, as Mr Fox remarks, produced the Red-breasted Goose (also in that collection), a bird of equal rarity, and, like the present one, a native of the eastern parts of Europe. It was supposed by many, that PENNANT'S *Ferruginous Duck* referred to this species, and it was figured as such by BEWICK, in a late edition of his well-known work.

It is, however, now generally allowed, that the bird described under that name in the British Zoology must have been *Fuligula (Anas) Nyroca* (the Nyroca or White-eyed Po-chard), the *Ferruginous Duck* of MONTAGU; the size, weight, colour of the bill and legs, as well as that of the plumage, so far as detailed by PENNANT, agreeing exactly with the female of this species. The specimen from which the present figure is taken was killed in the south of England, and was kindly forwarded to me by Mr GOULD, for the purposes of this work, and is now in my collection, having been presented to me by the gentleman into whose possession it passed from Mr GOULD. In Europe, the Casarka inhabits Russia and other eastern districts, and is occasionally met with (during its migrations) in Hungary and Austria. It is also scattered over a great part of Asia, being found in Persia and India, from which latter country I have received specimens of it. The species appears to be the same in Africa, the specimens from the Cape of Good Hope, and other parts, in no respect differing, either as to colours or markings, from the European and Asiatic. In figure, this bird greatly resembles the Common Sheldrake, but stands rather higher upon its legs. It does not seem, however, to have any fleshy tubercle at the base of the bill, like that bird, so that Mr STEPHENS and others have erred in including that specific peculiarity amongst their generic characters. In habits, it is said to be similar to our native species, and a reference to the preceding article will point out the places that it also chooses for nidification, with this difference only, that the Casarka is rarely found on the sea-coast, but breeds upon the borders of the larger rivers of Russia and the other eastern countries it inhabits, laying from eight to ten white eggs.—It feeds upon aquatic plants, insects, and the roe and small fry of fishes.

Nest, &c.

Food.

PLATE 48 **. Figure of the natural size. Length about twenty-three inches.

Forehead, cheeks, and chin pale ochreous-yellow. Region of the eyes, crown of the head, and nape of the neck greyish-white. Neck, as far as the collar, ochreous-yellow, tinged with orange. Collar about half an inch in width, black, glossed with green. Breast, mantle, scapulars, and under parts of the body gallstone-yellow, tinged with orange, being deepest upon the breast. The feathers upon the upper parts of the body have their margins paler, and the ends of the long tertials pass into sienna-yellow. Lesser and middle wing-coverts white; secondary quills green, glossed with purple, and forming a large speculum; greater quills black. Lower part of the back, upper tail-coverts, and tail, black, glossed with green. Bill, legs, and feet, black.

The female has not the black collar; her colours are not so bright, and the feathers upon the back are finely speckled with grey.

General
descrip-
tion.

GENUS SPATHULEA, *FLEM.* SHOVELLER.

GENERIC CHARACTERS.

BILL longer than the head, semi-cylindrical at the base, strait, depressed in front of the nostrils; the tip much dilated and spoon-shaped, terminated by a small hooked nail or dertrum. Mandibles laminated; the laminæ very fine, long, and like bristles, those of the upper mandible at its posterior part projecting much beyond its margins. Under mandible narrower than the upper, and having its front part, when closed, entirely hid by the projecting and deflected sides of the upper mandible. Nasal fosse small, and situated near the base of the bill. Nostrils oval, pervious. Tongue broad, fleshy, bristly, with the tip triangular.

Wings long, acuminate, with the first and second quills nearly equal in length.

Tail consisting of fourteen feathers, and slightly wedge-shaped.

Legs slender, short; feet of four toes, three before and one behind, the front ones webbed, the hind toe small and free.

In this genus the laminated structure of the bill (which prevails to a greater or less degree throughout the whole of the *Anatidæ*), acquires its highest development, and presents the appearance, in both mandibles, of a fine pectinated or ciliated appendage, accompanied with a great dilatation and depression of the front part of the bill, which is *spathulate* or spoon-shaped. It thus becomes an instrument beautifully adapted for detecting and separating the food of the species from the mud and water in which it is contained. The lamellæ of the two mandibles, when brought nearly into contact, aided by the fleshy papillous tongue, forming altogether a perfect sieve or strainer, and enabling the bird to reject through the interstices the adventitious matter, retaining only what is fit for sustenance. From possessing this structure (so essentially necessary to the habits of the family), in such a superior degree, the present may be considered as the typical genus, not only of its particular group, but of the whole of the *Anatidæ*. Another characteristic it displays (also prevalent in all the typical representatives of the greater divisions), is the wide extent of its geographical distribution; the common species (*Spath. chrypeata*) being found in all the quarters and in a variety of climates of the globe. These birds are the inhabitants of lakes and marshy districts, procuring their food, which principally consists of small worms, insects, and larvæ, by sifting the mud with their curiously formed bill. Mr STEPHENS, in the twelfth volume of Shaw's General Zoology, has introduced, amongst the Shovellers, two species of Ducks which certainly do not appear to belong to that genus, viz. *Anas Rubida* of Wilson's American Ornithology, and *Anas Labradoræ* (Pied Duck) of the same author.

COMMON SHOVELLER.

SPATHULEA CLYPEATA, Flem.

PLATE XLVIII *. MALE and FEMALE.

- Spathulea clypeata*, *Flem.* Br. Anim. 1. 123. sp. 186.
Rynchapsis clypeata, *Shaw's Zool.* 12. 115. pl. 48.
Anas clypeata, *Lin.* Syst. 1. 200. 19.—*Gmel.* Syst. 1. 518.—*Lath.* Ind. Orn. 2. 856. sp. 60.—*Wils.* Amer. Orn. 8. 87. pl. 67. f. 7. Male.—*Briss.* Orn. 6. 329. 6. t. 32. f. 1.
Anas Platyrhynchos, *Raii* Syn. 144. 13.
Anas Platyrhynchos altera, *Raii* Syn. 143. A. 9.—*Will.* 283.
Anas rubens, *Gmel.* Syst. 1. 519.—*Lath.* Ind. Orn. 2. 857. sp. 62.
Canard Souchet, ou le rouge, *Buff.* Ois. 9. 191.—*Id.* Pl. Enl. 971. et 972. Male et femelle.—*Temm.* Man. d'Orn. 2. 842.
Löffle ente, *Bechst.* Naturg. Deut. 4. 1101.—*Meyer*, Tasschenb. Deut. 2. 543.
Shoveller, Br. Zool. 2. 596. No. 280.—*Arct.* Zool. 2. No. 489.—*Will.* (Angl.) 370. and 371.—*Albin's* Birds, 1. t. 97. 98.—*Lath.* Syn. 6. 509. 55.—*Mont.* Ornith. Dict.—*Bewick's* Br. Birds, ed. 1826, f. t. 345.—*Flem.* Br. Anim. 123. sp. 186.—*Shaw's Zool.* 12. 115. pl. 48.—*Wils.* Amer. Orn. 8. 67. pl. 67. f. 7.
Red-breasted Shoveller, Br. Zool. 2. 597. No. 281.—*Lath.* Syn. 6. 512. 57.
Young and old males in the Summer change.

PROVINCIAL.—Blue-winged Shoveller, Kertlutock, Broad-Bill

THE Shoveller has generally been considered a winter visitant, but from the remarks of Mr YOUELL (in the thirteenth volume of the Transactions of the Linnean Society), it appears to breed in the marshes of Norfolk, as he had the young hatched from a number of eggs obtained from thence. It has also been known to breed in the neighbourhood of the Tweed; and in my collection is a male bird, that was killed in July, after having undergone the curious change in the colour of the feathers that assimilates the males of most of the species of this subfamily to the females, after the sexual intercourse has taken place. The Shoveller is, however, at no time plentiful in Britain, and is reckoned amongst the rarer members of the present family. It is a shy and timorous bird, and not easily domesticated, even under the most

favourable circumstances, as Mr YOUELL, out of between twenty and thirty eggs that were hatched, only succeeded in rearing two birds, both of which even died before they were twelve months old. He contradicts the assertion repeated by most of our compilers, that the bill of the young, when first hatched, is *as broad as the body*, and quite out of proportion to the size of the bird; stating, that at a few days old, the bill is not larger than that of a common duckling, though in three or four weeks it acquires its peculiar form and relative proportion.—This species inhabits the marshes, lakes, and rivers of the interior of the country; is seldom found on the sea-coast, and then only where the beach is of an oozy

Food. nature.—Its principal food consists of small worms, and the larvæ of insects, which it sifts from the mud, by its singular spoon-shaped bill, each mandible of which is bordered with very delicate and close-set lamellæ, which WILSON (with his usual aptness of illustration) has compared to a weaver's reed. These fit beautifully into each other, forming a kind of sieve, by which the bird is capable of separating what is fit for food, and rejecting through their interstices the mud

Nest, &c. and other superfluous matter.—It breeds in the central parts of marshes, forming its nest in the tufts of coarse herbage common to such situations, and laying from ten to twelve eggs of an oil-green colour. The lower larynx, or bone of divarication, of the male bird, is slightly enlarged, and furnished on the left side with a small thin and bony bladder, rather irregular in shape, and not above one-third larger than that of the Teal. The trachea is nearly of equal diameter throughout its length. The intestines are long, measuring from nine to ten feet. The flesh of the Shoveller is very delicate and well-flavoured, and, in consequence, highly esteemed for the table. With respect to its geographical distribution, this species is widely disseminated on the continental parts of Europe, being abundant in France, Holland, Germany, and other states. It is also found throughout a great part of Asia; and in America, where it appears in no

respect different, its range extends over both portions of that continent.

PLATE 48*. represents the male and female of the natural size.

Head and upper part of the neck deep hair-brown, glossed with duck-green. Lower part of the neck, breast, scapulars, and sides of the rump, white. Back blackish-brown; the feathers being margined with grey, and glossed with green. Lesser wing-coverts, and outer webs of some of the larger scapulars, bright greyish-blue. Larger coverts having white tips, and forming a bar across the wings. Speculum rich duck-green. Tertiaries long and acuminate, of a rich purplish-black; the central parts of the feathers having a white streak. Quills hair-brown. Tail, with the middle feathers, hair-brown, edged with white; the outer ones entirely white. Upper and under tail-coverts black, glossed with duck-green. Belly and abdomen rich orange-brown, with zigzag lines of black upon the flanks and vent. Legs orange-red. Bill about three inches long, brownish-black, large, and dilated at the end.

General
description.
Male.

The whole of the upper parts of the body deep clove-brown; the feathers being barred and margined with reddish-white. Lesser wing-coverts similar to those of the male. Under parts pale reddish-brown.

Female.

The male bird, towards the end of summer, has the cheeks, sides of the neck, and throat, reddish-white, speckled with hair-brown. Crown of the head, and nape of the neck black, with the feathers margined paler, and slightly glossed with green. Back and scapulars deep clove-brown, margined with pale yellowish-brown. Breast a mixture of yellowish-brown and reddish-white; the feathers having circular bars and spots of black. Under tail-coverts yellowish-white, with lanceolate streaks of hair-brown. Belly and abdomen a mixture of yellowish and orange coloured brown.

GENUS CHAULIODUS, SWAINSON. GADWALL.

GENERIC CHARACTERS.

Bill as short as the head, depressed throughout its length, as broad as high at the base, rather narrowing towards the tip, which has a small dertrum or nail. Both mandibles laminated; the laminae of the upper one projecting beyond the margins of the bill.

Nostrils lateral, near the base of the bill, oval and pervious.

Wings long and acuminate. Tail wedge-shaped.

Feet with four toes; three before and one behind; the front ones webbed; the hind toe small and free.

The form of the bill, and the great development of its laminated structure (as shewn in the proportionate size of the laminae of the upper mandible), combined with the peculiar habits, and comparatively sombre plumage of the species, has induced me to separate the Gadwalls from the succeeding genera, comprising the *Ducks*, the *Teals*, and the *Widgeons*. In this, however, I only adopt the views of a more able ornithologist, for Mr SWAINSON, in the second volume of the *Northern Zoology*, and also in a paper upon the typical perfection of the *Anatidæ* (published in the *Journal of the Royal Institution*), has made it a *subgenus* of his genus *Anas* (of which he considers the Shoveller as the type), and which term is precisely of the same import as that of *genus* in the systematic arrangement I have adopted, being the denomination of the lowest group of species. Although the form of the bill differs much from that of the Shovellers, having lost the dilatation of its extremity, so conspicuous in the other, and assumed in a great measure the proportions of the next genus (*Anas*), the Gadwalls still shew a near af-

finity to the Shovellers, in the length and delicacy of the laminae of the upper mandible; which, in the European species, project upwards the tenth of an inch beyond the margin. They are also removed in their habits from the other members of this subfamily, being (if I may so use the term) more decidedly *aquatic*. They excel in diving, and have recourse to it, not only when wounded (as some of the others do), but as the means of escape whenever disturbed; seldom taking wing for that purpose, although in rapidity of flight they surpass most of the Ducks. In addition to the species known in Europe, another has been found in Africa, which Mr SWAINSON has named *Chaul. Capensis*; and in this new one the middle tail-feathers are rather elongated, shewing a nearer approach to the Teals and Widgeons.

COMMON GADWALL.

CHAULIODUS STREPERA, Swainson.

PLATE LI. & LI*. FIG. 1.

- Chauliodus Strepera*, Swainson, in Journ. Royal Inst. 2. 19.
Anas Strepera, Linn. Syst. 1. 200. 20.—Gmel. Syst. 1. 520.—Briss. Orn. 6. 339. 8. t. 33. f. 1.—Lath. Ind. Orn. 2. 859. sp. 69.—Wils. Amer. Orn. 8. 130. pl. 71. f. 1. Male.—Shaw's Zool. 12. 103.—Flem. Br. Anim. 1. 124. sp. 188.
Anas Platyrhynchos rostro nigro, Ray, 145.—Will. 287.
Le Chipecau ou Ridenne, Buff. Ois. 9. 187. t. 12. fem.—Id. Pl. Enl. 958. Male.
Canard Chipecau ou Ridenne, Temm. Man. d'Ornith. 2. 837.
Schwatterente, Bechst. Naturg. Deut. 4. 1096.—Meyer, Tasschenb. Deut. 2. 533.
Gadwall or Grey, Penn. Br. Zool. 2. 603. No. 288.—Arct. Zool. 2. 575. 1. —Will. (Angl.) 374. t. 72.—Lath. Syn. 6. 515. 61.—Lath. in Trans. Lin. Soc. 4. 111. pl. 13. f. 7. and 8. (Trachea).—Lewin's Br. Birds, 7. pl. 258.—Mont. Orn. Dict. 1.—Bewick's Br. Birds, ed. 1826, p. t. 348.—Shaw's Zool. 12. 103.—Flem. Br. Anim. 1. 124. sp. 188.—Wils. Amer. Orn. 8. 130. pl. 71. f. 1.

THE Gadwall is rather a rare visitant with us, and is seldom seen, except about the period of its vernal migration, ^{Rare visitant.}

when some few pairs occasionally visit the marshes of Norfolk and the adjoining counties, being probably driven to that coast of our island by adverse winds, out of the usual line of their flight. This seems to be farther to the eastward, as the bird is plentiful upon the continental parts of Europe, in our parallels of latitude. Thus, according to TEMMINCK, it abounds in Holland, breeding in the great marshy tracts of that country, as well as in other northern districts. The specimens I have been enabled to see in a fresh state were all met with in the poulterers' shops in London, during the months of April and May, and those now in my collection were thus obtained. Though other writers have mentioned it as being a winter visitant to our shores, I have never seen it except at the period above stated; and MONTAGU, who probably, in consequence of this idea, only looked for it during the winter, never succeeded in obtaining a recent specimen. The species is widely distributed throughout the northern and eastern parts of Europe, and is also found in North America, having been described by WILSON as a winter visitant to various parts of the United States. These birds frequent the lakes, rivers, and marshes of the interior, particularly those abounding in reeds and other rank aquatic herbage, and seldom resort to the sea-coasts. They are strong on wing, and in rapidity of flight surpass most of the other nearly allied species, but are more remarkable for their quickness in diving, and their great propensity to it as the method of avoiding danger, or even observation.—They

Nest, &c. breed in the most covered parts of the marshes, and lay from ten to twelve eggs each, of a pale oil-green colour.—Their

Food. food consists of insects and their larvæ, aquatic plants, and seeds.—The voice of the Gadwall is not unlike that of the Common Wild Duck, only rather hoarser. The trachea of the male bird is slightly enlarged in its diameter at about two-thirds of its length, but becomes narrower as it approaches the lower larynx; this consists of a large bony arch, with a globular, or rather pyriform, bladder attached

to the left side, being in shape much like that of the Common Mallard, but smaller. The flesh of this species is held in high estimation.

PLATE 51. represents the Male Gadwall of the natural size.

Head and upper part of the neck speckled with hair-^{General description.}
brown and white, passing upon the crown of the head ^{Male Bird.}
into yellowish-brown. Lower part of the neck, breast, and mantle black, with concentric semicircles of white. Scapulars, flanks, and sides beautifully rayed with zig-zag lines of white and blackish-brown. Lesser wing-coverts grey, marbled with yellowish-white; the middle coverts deep orange-brown, succeeded by others of a glossy black. Speculum having the lower part black and the upper white. Tertiaries grey, tinged with yellowish-brown. Quills hair-brown. Lower part of the back, rump, upper and under tail-coverts black, glossed with purplish-blue. Tail wedge-shaped; the two middle feathers hair-brown with paler edges, the lateral ones tinged with yellowish-brown, margined and tipped with white. Belly and abdomen greyish-white, speckled with hair-brown. Bill one inch and three quarters long, brownish-black. Irides brown. Legs and toes orange-red.

PLATE 51 *. Fig. 1. The Female.

Crown of the head glossy black, mixed with greyish-white. ^{Female.}
Over the eyes is a lightish streak, intermixed with black. Chin and throat pure white. Cheeks yellowish-white, streaked with hair-brown. Breast pale buff, with the central parts of the feathers deep-brown. Upper parts deep brown, the feathers being margined with pale buff; with the flanks and sides the same. Belly and abdomen white. Lesser wing coverts hair-brown, margined paler. Speculum as in the male. Tail marbled with brown, buff and white.

GENUS ANAS, LINN. DUCK.

GENERIC CHARACTERS.

Bill longer than the head, depressed through its whole length, broad, strait from before the nostrils to the tip, nearly equally broad throughout. Mandibles dentato-laminate, with the laminæ of the upper mandible scarcely projecting beyond the margin. Nostrils lateral, oval, situated near the base of the bill. Wings of mean length, acuminate. Tail short, slightly wedge-shaped ; with the middle feathers curling upwards in some species.

Feet with four toes, three before and one behind ; the front ones webbed, the hind toe small and free.

The birds of this genus, of which the Common Wild Duck may be considered the representative, differ from the Shovellers in the general form of the bill, which is not expanded near the tip, and in the shortness of the laminæ of the upper mandible, which do not project beyond its margins. In this latter respect they also differ from the Gadwalls. They possess a wide range, being met with in most parts of the globe ; and it is from the common species (*Anas Boschas*) that we have obtained our useful domestic Duck, now expanded into so many varieties.

COMMON WILD DUCK.

ANAS BOSCHAS, Linn.

PLATES L. & L*. MALE AND FEMALE.

- Anas Boschas*, Linn. Syst. 1. 205. 40.—Gmel. Syst. 1. 538.—Lath. Ind. Orn. 2. 850. sp. 49.—Wils. Amer. Orn. 8. 121. pl. 70. f. 7.—Shaw's Zool. 12. 84.—Flem. Br. Anim. 1. 123. sp. 187.
Anas fera, Briss. Orn. 6. 318. 4.
 Le Canard sauvage, Buff. Ois. 9. 115. t. 7. & 8.—Temm. Man. d'Ornith. 2. 835.
 Le Canard ordinaire, Cuv. Reg. Anim. 1. 537.
 Gemeine Ente, Bechst. Naturg. Deut. 4. 1046.—Meyer, Tasschenb. Deut. 2. 538.
 Wild Duck, or Mallard, Penn. Br. Zool. 2. 591. No. 279.—Arct. Zool. 2. 494.—Lath. Syn. 6. 489.—Id. Sup. 2. 351.—Id. in Trans. Linn. Soc. 4. 112. pl. 13. f. 10. ('Trachea.)—Albin's Birds, 2. pl. 10.—Lewin's Br. Birds, 7. pl. 240.—Mont. Ornith. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, 2. p. t. 325.—Shaw's Zool. 12. 84.
 Var. α. *Anas domestica*, Linn. Syst. 1. 206. 40. B.—Raii Syn. 150. 1.
Boschas major, Briss. Orn. 6. 326. A.
 Tame Duck, Albin's Birds, 2. pl. 99.—Lath. Syn. 6. 494.—Bewick's Br. Birds, ed. 1826, pl. t. 334.
 Var. β. *Anas adunca*, Linn. Syst. 1. 206.—Gmel. Syst. 1. 528.
Anas rostro incurvo, Briss. Orn. 6. 311.—Raii Syn. 150. 2.—Will. 180.
 Hook-billed Duck, Albin's Birds, 2. t. 96. 97.—Will. (Angl.) 381. t. 75.—Lath. Syn. 6. 497. D.—Bewick's Br. Birds, 2. ed. 1826, p. 338.

AMONGST the various species of the present beautiful sub-family of the *Anatidæ*, few display a more chaste and delicately pencilled plumage than the Mallard in his matured state. This, however, is very apt to escape the degree of attention it deserves, from our becoming so much accustomed to the appearance of his domesticated brethren; who, though frequently retaining all the colours and distinctive markings of the original stock, cannot, with their dull and heavy appearance, compensate for the sprightly look and graceful form that will strike the closer observer as distinctive of this bird in a state of nature. This is an indigenous species, and, although banished by the advance of agriculture from vast tracts of country that formerly provided it with suitable breeding retreats, still inhabits the shores of

our lakes and rivers, with such upland boggy grounds as have not yet been submitted to the system of drainage that has of late years so altered the face of the country. These changes in the character of the soil, have of course produced a great, and, I may add, annual decrease of our native breed, which must progressively happen as long as the causes producing it are in operation. It is probable, therefore, that in a few years the Common Wild Duck will become comparatively rare as an indigenous species, except in some few localities that may bid defiance to agricultural improvement. In such case, the deficiency will, during the winter months, be supplied in part by additional arrivals from the more northern countries, to which this bird will naturally resort for the purpose of reproduction, under more favourable auspices*. The estimation in which the flesh of the Wild Duck, both for delicacy and flavour, has ever been held at the table, has caused various devices to be resorted to for its capture, of which none appear to be so effectual as the decoy†. It is by this method that the greatest part of the birds annually sent to the London market are taken, and its practice is allowed from October till February. In ten of these decoys in the neighbourhood of Wainfleet, it is recorded that 31,200 wild fowl were taken in one season, of

* Some idea of the quantity of Wild Ducks formerly produced in England, may be formed from PENNANT's account, viz. that at a single driving of the fens of Lincolnshire, before the young had taken wing, and when the old birds were in the moult, one hundred and fifty dozens had been taken! The same district at the present time does not produce perhaps a dozen broods in the year.

† For an accurate description of a decoy, I refer my readers to that by Mr BONFELLOW, given in the second volume of "BEWICK's British Birds" (under the article *Wild Duck*), and also copied into "SHAW's General Zoology," and "WILSON's North American Ornithology." WILLOUGHBY and PENNANT also give descriptions of this device, but not so detailed as that of Mr BONFELLOW. For an illustration and description of the French mode of shooting from a hut, and for some particulars relative to decoy-birds, see Colonel HAWKER's amusing "Instructions to Young Sportsmen."

which more than two-thirds were of the present species. WILSON, in his North American Ornithology, has described several other modes of taking these birds that are in use in that country, and mentions also that singular and ingenious method adopted in India and China, where the sportsman, covering his head with a calabash or wooden vessel, wades into the water, and, keeping only his head thus masked above it, advances towards and mixes with the flock, who feel no alarm at what they look upon to be a mere floating calabash. He is thus enabled to select his victims, whom he seizes by the legs, and pulling them under water, fastens them to a girdle with which he is equipped, thus carrying off as many as he can stow away, without exciting distrust and alarm amongst the survivors. The Wild Duck is widely distributed through most of the temperate and arctic regions of the globe; in the former of which it is only a winter visitant, as the great body of these birds retire even beyond our parallel of latitude for the purposes of reproduction. In all the countries where it has been met with, its qualities for domestication seem to have been recognised and turned to advantage; and, though from long continuance of the breed in a state of confinement, great variety in colour, size, &c. has been produced, the male bird constantly retains the peculiar specific distinction of the curled feathers of the tail. In China and other eastern countries, great numbers of ducks are hatched by artificial means, by the eggs being placed in tiers in boxes filled with sand, and subjected to the necessary degree of heat, upon a floor of bricks. The ducklings are fed at first with a mess composed of boiled craw-fish, or crabs, cut in small pieces, and mixed with rice. In about a fortnight they are able to shift for themselves, when they are placed under the guidance of an old stepmother, who leads them at stated times to feed, to and from the *sampane* (or boat) in which they are kept, and which is moved about by the owner to places likely to afford a plentiful supply of food. In a natural state, Wild Ducks always pair, though

in a state of domestication they are observed to be polygamous. This pairing takes place towards the end of February or beginning of March, and they continue associated till the female begins to sit, when the male deserts her, joining others of his own sex similarly situated; so that it is usual to see the Mallards, after May, in small flocks by themselves. About this time also they begin to undergo the changes of colour that assimilate them in a great degree to the female, and which is retained till the period of the autumnal or general moult. The care of the young thus devolves entirely upon the Duck, and is not partaken by the male, as WILSON and others appear to think; and this fact I have had frequent opportunities of verifying, as many Wild Ducks annually breed upon the edges of our Northumbrian moors, and the young broods are of course frequently under inspection as they descend the rivulets to the lower marshy parts of the country.—The nest of the Wild Duck is generally made in some dry spot of the marshes, and not far from water, to which she can lead her progeny as soon as hatched. It is composed of withered grass, and other dry vegetable matter, and usually concealed from view by a thick bush, or some very rank herbage; though other and very dissimilar situations are occasionally chosen, as several instances have been recorded where they have deposited their eggs on the fork of a large tree, or in some deserted nest. Such an instance once occurred within my knowledge, and near my own residence, where a Wild Duck laid her eggs in the old nest of a crow, at least thirty feet from the ground. At this elevation she hatched her young; and, as none of them were found dead beneath the tree, it is presumed she carried them safely to the ground in her bill, a mode of conveyance known to be frequently adopted by the Eider Duck. When disturbed with her young brood, the Wild Duck has recourse to various devices to draw on herself the attention of the intruder, such as counterfeiting lameness, &c. which manœuvres are generally successful; and

in the mean time the young ones either dive or secrete themselves in the bushes or long herbage, so that it rarely happens that more than two or three are captured out of a large brood. The eggs are from ten to fourteen, of a bluish-white; and the Duck, during incubation, when she quits the nest for food, is in the habit of covering them with down and other substances, in all probability from an instinctive idea of concealing them from observation, and which practice is pursued by many birds as well of this as other families. The trachea of the Mallard is furnished at its lower extremity with a labyrinth * (not unlike that of the Gadwall in shape and position, but considerably larger), yet the tube itself is of nearly equal diameter throughout its length.—The food of the Wild Duck consists of insects, worms, slugs, and all kinds of grain, &c.

PLATE 50. Represents the Mallard, of the natural size.

Head and neck glossy duck-green, with the lower part surrounded by a narrow collar of white. Breast deep chocolate-red. Under parts greyish-white, with fine zigzag transverse lines of grey. Mantle chestnut-brown, with the margins of the feathers paler. Scapulars greyish-white, rayed with zigzag brown, those next to the wing being rich brown, rayed with black. Lower part of the back, rump, and under tail-coverts velvet-black, with green reflections. The four middle tail-feathers black, and curled upwards; the rest hair-brown, deeply margined with white. Lesser wing-coverts hair-brown, tinged with yellowish-brown. Greater coverts having a bar of white, and being tipped with velvet-black. Speculum rich glossy Prussian blue, passing into black, and tipped with white. Quills pale hair-brown. Bill

General
description.

Male.

* For illustrations and descriptions of the different tracheas of the Duck, &c. I refer my readers to Mr YARBELL's excellent paper, published in the 15th volume of the Transactions of the Linnean Society.

honey-yellow, with a greenish tinge. Legs and toes orange.

PLATE 50 *. The Female, also of the natural size.

Female. Head and neck dirty cream-yellow, with numerous streaks of brown, which are darkest upon the crown. Chin and throat pale buff. Upper parts umber-brown, of different shades, with the feathers margined with cream-coloured white. Lesser wing-coverts pale hair-brown, tinged with grey. Speculum purplish-blue, passing into velvet-black, with the tips of the feathers white. Quills pale hair-brown. Breast and under parts yellowish-brown, spotted and streaked with darker brown. Legs orange.

The young males resemble the females till after the autumnal moult.

GENUS QUERQUEDULA, *RAY*. TEAL.

GENERIC CHARACTERS.

BILL as long as the head, elevated at the base, strait, semi-cylindrical, nearly of equal breadth throughout; tip obtuse, with the dertrum or nail small and hooked; mandibles laminated, and having the laminæ almost entirely concealed by the deflected margins of the upper mandible. Nasal fosse small, lateral, near to the culmen of the bill. Nostrils oval, pervious.

Wings acute, with the first and second quills of nearly equal length.

Tail wedge-shaped, with the two middle feathers more or less elongated, and acute.

Legs having the tarsus rather shorter than the middle toe. Feet with four toes, three before and one behind; the front ones webbed; the hind toe small and free.

This genus is distinguished from the two preceding ones by the form of the bill, which is longer and proportionably narrower, assuming a semi-cylindrical shape. The laminae of the bill are also short, being in most species scarcely visible below the deflected edges of the mandible. By many recent systematists, the Pintail (*Anas acuta* of LINNÆUS) has been separated from the other Teals, on account of the greater elongation of the two middle-tail feathers, and made the type of a genus, called *Dafila* by Dr LEACH. But as the bill of the only known species displays the same form as that of the Common Teal, and the structure of its trachea is also similar, I have ventured, though not without hesitation, to retain it in the present genus. The Teals are, for the most part, of inferior size to the species of the preceding groups, some of them being amongst the smallest of the *Anatidæ*. Their form is rather slender, and, from their great length of wing and development of tail, they fly with strength and rapidity. They inhabit the interior parts of the country, and are but seldom found upon the sea-shores.

COMMON PINTAIL.

QUERQUEDULA ACUTA, Mihi.

PLATE XLIX. & PLATE LI. * FIG. 2.

- Anas acuta*, Linn. Syst. 1. 202. 28.—Gmel. Syst. 1. 528.—Lath. Ind. Ornith. 2. 864. sp. 81.—Wils. Amer. Orn. 8. 75. pl. 68. f. 3. male.—Flem. Br. Anim. 1. 124. sp. 189.
Anas caudacuta, Raii Syn. 147. A. 5.—Will. 289. t. 72.
Anas longicauda, Briss. 6. 639. 16. t. 34. f. 1, 2.
Dafila caudacuta, Stephens, Shaw's Zool. 12. 127. pl. 49.
 Canard à longue queue, Buff. Ois. 9. 197. t. 73.—Id. Pl. Enl. 954.—Temm. Man. d'Orn. 2. 838.
 Spiessente, Bechst. Naturg. Deut. 4. 1116.—Meyer, Tasschenb. Deut. 2. 536.
 Sea Pheasant or Craiker, Will. (Angl.) 376. t. 73.—Albin's Birds, 2. t. 94, 95.—Flem. Br. Anim. 1. 124. sp. 189.
 Pintail, Br. Zool. 2. No. 282.—Arct. Zool. 2. No. 500.—Lath. Syn. 526. 72.—Id. Sup. 2. 354.—Lewin's Br. Birds, 7. 261.—Mont. Ornith. Dict. and Sup.—Bewick's Br. Birds, ed. 1826.—Wils. Amer. Orn. 8. 72. pl. 68. f. 3. male.

Periodical
visitant.

THE slender neck, pheasant-like tail, and superior lightness of model in this Duck, have bestowed upon it an appearance of elegance unknown to most of the other species.

It is with us a regular winter visitant; and considerable numbers, are annually taken in the decoys of Lincolnshire, Norfolk, &c. MONTAGU says that it is most abundant in the north of England and Scotland, and especially in the Orkney Islands. This assertion, however, I must in part contradict, as the result of long observation tells me it is of *rare occurrence* in the *northern counties* of England; and the same may be said of the southern districts of Scotland, which Dr FLEMING confirms in his History of British Animals. With respect to the Orkneys, I cannot speak so confidently, although it appears probable, that what had been represented to him as the present species, was in fact the Long-tailed Duck (*Harelda glacialis*), which is found in great numbers during the winter in the bays of this group of islands. The Pintail has a wide geographical range, being met with in all the northern parts of Europe, Asia, and America, and retires in the summer to breed in high latitudes. Its equatorial migration extends as far as Italy; and during its periodical flight to the southward, it occurs abundantly in Holland, France, Germany, and other continental states. The marshes of the interior parts of the country, and fresh-water lakes, are its usual places of resort, being rarely found upon the sea-coast.—Its food consists of

Food.

insects and their larvæ, the seeds of aquatic plants, particularly of some species of *Epilobium*, and vegetables. It is of a shy and timorous disposition; and in North America, where it is plentiful, often disappoints the wild-fowl shooter, by giving the signal to its numerous associates before he can advance within gunshot. Upon rising, when alarmed, the birds of this species cluster confusedly together, and (as WILSON observes), if within distance, give the sportsman a fair opportunity of raking them advantageously. They seldom dive, seeming only when wounded to have recourse

to that manœuvre, in which case, the bird coming up under the bow of the boat, frequently endeavours to conceal itself, by moving round with it. Like many others of the *Anatidæ* (particularly of the species belonging to this group), the plumage of the male Pintail, towards the end of summer, or after the sexual intercourse is completed, undergoes a remarkable change, and becomes very like that of the female. This appears to me to be an actual change of colour in the feathers, rather than a renewal of them; and the same change is observable in the Mallard, and the males of the Teal, Wigeon, &c. It also prevails, if not in all, at least in some species of the genus *Mergus*, as I have noticed it in *Mergus serrator*. The Pintail is easily domesticated, but rarely breeds in confinement. A hybrid progeny has been produced between this bird and the Wigeon; and, to such an extent do the sexual propensities seem to be affected in this state, by difference of food, and other causes, that MONTAGU mentions a male Pintail in his menagerie, which, for want of the other sex, shewed an inclination to pair with a female Scaup, and even with a Bernacle Goose. He farther adds, that one of them did pair with a tame duck, but that none of the eggs (upwards of twenty in number) proved to be fecundated. Its usual notes are soft and subdued, but, according to WILSON, it also frequently makes a chattering noise. The season of courtship is indicated in the male by suddenly raising himself upright in the water, and bringing his bill close to his breast, uttering at the same time a low soft note. This gesticulation is often followed by a jerk of the hinder part of the body, which is then also thrown above the water. The labyrinth of this species consists of a round long bladder, situated on the left side of the arch of the lower larynx; its upper surface being nearly even with the top of the arch, but its lower one reaching much below it. Its texture is very fine, and in young birds may be indented by slight pressure; but becomes brittle in adults.—The nest of this species is made in the rushes and strong herbage of marshes, Nest, &c.

and the eggs are from eight to ten, of a bluish-white. Its flesh is sweet and well-flavoured.

General description. **PLATE 49.** represents the Male bird of the natural size.

Male. Head, chin, and throat, dark hair-brown, glossed behind the ears with auricula-purple. Lower part of the neck, and two streaks running upwards to the hind part of the head, white. Nape and back part of the neck deep brown. Breast, belly, and abdomen, white. Flanks and thighs with fine transverse black lines. Vent and under tail-coverts velvet-black. Back beautifully marked with alternate waving lines of black and greyish-white. Scapulars black. Tertials long and acuminate, velvet-black, margined with yellowish-white, or sometimes with pearl-grey. Lesser wing-coverts deep smoke-grey. Larger coverts tipped with pale reddish-brown. Speculum blackish-bronzed green, tipped with white. Greater quills hair-brown. Tail having the two middle feathers elongated, acuminate, black; and the lateral ones hair-brown, margined with white. Bill, from the gape, two and a quarter inches long, black. Legs and toes blackish-grey.

PLATE 51.* Fig. 2. The Female, also of the natural size.

Female. Forehead and crown pale chestnut-brown, streaked with black. Cheeks and neck pale ochreous yellow, speckled with black. Chin and throat plain cream-yellow. Sides of the breast hair-brown, barred and tipped with white. Mantle and scapulars amber-brown, barred and varied with pale buff-orange and white. Tertials hair-brown, margined with white. Lesser and greater wing-coverts pale broccoli-brown, edged and tipped with white. Speculum hair-brown, glossed with green; the feathers having white tips. Quills hair-brown. Tail deep hair-brown, with imperfect bars of white and pale buff-orange; the two middle feathers exceeding the rest in

length about half an inch. Belly and abdomen yellowish-white, indistinctly marbled with pale broccoli-brown. Under tail-coverts white, speckled with chestnut-brown of different shades. Bill greyish-black. Legs and toes grey, tinged with brown.

COMMON TEAL.

QUERQUEDULA CRECCA, Steph.

PLATE LIV. MALE and FEMALE.

- Querquedula crecca*, Steph. Shaw's Zool. 12. 146.
Anas crecca, Linn. Syst. 1. 204. 33.—Gmel. Syst. 1. 532.—Lath. Ind. Orn. 2. 872.—Linn. Br. Anim. 1. 125. sp. 192.—Wils. Amer. Orn. 8. 106. pl. 70. f. 4. male.
Querquedula secunda, Aldrov. Raii Syn. 147. A. 5.—Will. 290. t. 74.
Querquedula minor, Briss. 6. 436. 32. t. 40. f. 1.
 Petite Sarcelle, Buff. Ois. 9. 265. t. 17. & 18.—Id. Pl. Enl. 947. male.
 Canard Sarcelle d'Hiver, Temm. Man. d'Orn. 2. 846.
 Crickente, Bechst. Naturg. Deut. 4. 1143.—Meyer, Tasschenb. 2. p. 547.
 Common Teal, Penn. Br. Zool. 2. No. 290.—Arct. Zool. 2. 577.—Will. (Angl.) 337.—Albin's Br. Birds, 1. t. 100.—Lath. Syn. 6. 551. 83.—Id. Sup. 276.—Id. Sup. 2. 360.—Id. in Trans. Linn. Soc. 4. 108. pl. 15. f. 1. (Trachea).—Lewin's Br. Birds, 7. pl. 260.—Mont. Orn. Dict. 2. and Sup.—Bewick's Br. Birds, 2. ed. 1826. pt.
 Green-winged Teal, Wils. Amer. Orn. 8. 106. pl. 70. f. 40. male.

THE Teal, one of the smallest of the Anatidæ, is entitled to be included in the number of our indigenous birds, as it is known to breed in the bogs and marshy grounds of the northern counties of England, as well as on the edges of the Scottish lakes. It is not, however, to be supposed that the birds so generally spread over the kingdom during the winter, and taken in such great numbers in the decoys, and by various other devices, in the southern counties, are the produce alone of those that remain with us; they are most of them natives of more northern latitudes, and who make these islands the boundary of their equatorial movement. Our indigenous broods, I am inclined to think, seldom quit the immediate neighbourhood of the place in which they were

Nest, &c.

bred, as I have repeatedly observed them to haunt the same district from the time of their hatching till they separated and paired, on the approach of the following spring.—The Teal breeds in the long rushy herbage about the edges of lakes, or in the boggy parts of the upland moors. Its nest is formed of a large mass of decayed vegetable matter, with a lining of down and feathers upon which the eggs rest; these are from eight to ten in number, in size rather exceeding those of the Ring-Dove, and of a cream-white. The young, when first excluded, are covered with a dark-coloured down, that, in less than two months, gives place to a plumage similar (in both sexes) to that of the female parent. The young males do not acquire their peculiar distinctive garb till about the middle of December. The present is a night-feeding bird; commencing the flight from its diurnal retreat immediately after sun-set. During the day it reposes upon the water, or sits motionless on its very brink, with the head couched between the shoulders, or, when actually asleep, with the bill hidden under the scapulars, the usual reposing attitude of most of the feathered race. The flight of the Teal is very rapid, and, when flushed, it darts off so quickly, as to require great alertness in the sportsman, that he may gain his shot before the bird is out of distance.—

Food.

Its food is composed of the seeds of various aquatic plants, vegetables, insects, and mollusca. In confinement (which it bears well, and soon becomes very tame), when fed upon grain, it always moistens the food before attempting to swallow it;—a habit also observed in its congener the Gargany.—The bill of the Teal is formed exactly on the plan of that of the Pintail, and the two middle tail-feathers, though not elongated in the same proportion, are longer than the rest, and pointed. The American Green-winged Teal of WILSON has by some been considered a distinct species, on account of the white bar on the shoulders, seen in many of the males; the author, however, thinks it identical with the European bird, and I believe Dr RICHARDSON and Mr SWAINSON are of the same

opinion. The distribution of the present species extends over a great part of Europe and Northern Asia, as well as the American Continent; and during winter, the period of its migratory movements, it is very abundant in France, Holland, Germany, &c.—The trachea of the male is of small but equal diameter throughout its length; the lower larynx is formed of a large bony arch, on the left of which is a small globular ampulla, about the size of a pea. The flesh of this bird is very tender, and highly prized at the table.

PLATE 54. Fig. 1. The Male.

Bill black. Irides brown. Crown of the head, cheeks, sides and front of the neck, reddish-brown. Enclosing the eye, and proceeding as far as the nape of the neck, is a large patch or band of glossy duck-green, bordered by a white line. Chin black. Sides of the lower part of the neck, back, scapulars, and flanks, beautifully rayed with zigzag lines of black and white. Wing-coverts hair-brown, tinged with grey; those covering the secondaries having yellowish tips, and forming a bar across the wings. Middle of the speculum glossy duck-green; with the feathers on either side velvet-black. Front of the neck and breast cream-white, with round black spots. Belly and abdomen white. Under tail-coverts cream-yellow, divided and bordered by a band of velvet-black. Tail wedge-shaped, consisting of fourteen feathers, pale hair-brown, margined with white. Legs clove-brown.

General
description.
Male.

Towards the end of summer the male loses in a great measure his distinctive markings, acquiring a plumage not very different from that of the female; which he retains till the general moult.

Fig. 2. The Female.

Head and hinder part of the neck pale sienna-yellow, streaked with deep hair-brown. Throat and cheeks

Female.

yellowish-white, spotted with hair-brown. All the upper parts brownish-black, deeply margined with yellowish-brown and white. Under parts yellowish-white. Speculum similar to that of the male. Legs tinged with yellow.

The young of the year, of both sexes, strongly resemble the female bird; though usually rather darker in the tints of their plumage.

GARGANY TEAL.

QUERQUEDULA CIRCIA, Steph.

PLATE LIII. Male and Female.

- Querquedula Circia, Steph.* Shaw's Zool. 12. 143. pl. 51.
Anas Circia, Linn. Syst. 1. 204. 34.—*Gmel.* Syst. 1. 553.—*Raii* Syn. 148.—*Lath.* Ind. Orn. 2. 873. var. B.
Querquedula aestiva, Briss. Orn. 6. 445. 33.
La Sarcelle d'été, Buff. Ois. 9. 268.—*Id.* Pl. Enl. 946.
Canard Sarcelle d'été, Temm. Man. 2. 844.
La Sarcelle ordinaire, Cuv. Reg. Anim. 1. 539.
Summer Teal, Will. (Angl.) 378. t. 76.—*Albin's* Birds, 2. 103. 104.—*Lath.* Syn. 6. 552. 89.
Anas Querquedula, Linn. Syst. 1. 203. 32.—*Gmel.* Syst. 1. 531.—*Briss.* 6. 427. 31. t. 39. f. 1. 2.—*Raii* Syn. 148. 8.—*Will.* 271. t. 74.—*Lath.* Ind. Orn. 2. 872. sp. 99.—*Flem.* Br. Amer. 1. 125. sp. 191.
La Sarcelle commune, Buff. Ois. 9. 260.
Knackente, Bechst. Naturg. Deut. 4. 1135.
Gargany, Br. Zool. 2. No. 289. pl. 101.—*Arct. Zool.* 2. 576. O.—*Will.* Angl. 377. t. 74.—*Lath.* Syn. 6. 550. 87.—*Id.* Sup. 2. 360.—*Id.* in Trans. Linn. Soc. 4. 108. pl. 13. f. 2. 3. (Trachea).—*Lewin's* Br. Birds, pl. 259.—*Mont.* Orn. Dict. 1. and Sup.—*Bewick's* Br. Birds, ed. 1826. pt. 372.—*Shaw's* Zool. 12. 143. pl. 51.—*Flem.* Br. Anim. 1. 125. sp. 191.
 PROVINCIAL—Pied Wigeon, Cricket Teal.

THE male of the Gargany, which does but slightly exceed the Common Teal in dimensions and weight, is distinguished by a beautifully varied plumage; not, however, producing its effect by strong contrast, as the colours are mostly of a subdued tone, but dependent for its attraction upon a delicacy of pencilling and a pleasing gradation of tint, exceeded by few even of this handsome group of the Anatidæ. In

the present species the bill becomes rather broader in proportion to its length than in the Teal and Pintail, and the points of the lamellæ are just visible below the margins of the upper mandible, shewing an advance towards the Blue-winged Teal of America, in which species they protrude farther than in any of the genus, connecting it with the Gadwalls and Ducks. In the form and position of the tracheal labyrinth it also differs considerably from the Teal; for, instead of this appearing as a globular appendage on the left side of the lower larynx, as in that and other species of the present family, it is placed perpendicular to the tracheal tube, of which it looks not unlike a continuation. It is also of considerable size, and divided on its anterior face by a slight furrow into two unequal portions; and the bronchi spring from the upper part of its dorsal aspect. The diameter of the tracheal tube is, moreover, much greater throughout its whole length, being nearly equal to that of the Mallard, and widening to a great degree immediately before its junction with the ampulla.—This is by no means a common species in Britain; and though stated to be a winter visitant, I never met with it, except in the months of April and May, when it is killed in Norfolk and other eastern parts of the island, and sent to the London market. The above is the period of its migratory flight towards its summer, or breeding, quarters; and the few that visit us are probably driven out of their direct course, which lies more to the eastward. I have not been able to ascertain satisfactorily whether any of these visitants remain and breed here; nor do any of our writers expressly state that fact, though MONTAGU and FLEMING hint at its probability. In the north of England it is a bird of great rarity, not a single instance of its capture having come within my experience; and this would be a remarkable circumstance, if, as Low states in his "*Fauna Orcadensis*," it abounds in the bays and on the lakes of those islands. But as he confesses that he was never able to procure a specimen for inspection, and

Occasional
visitant.

only speaks upon the strength of observations made at a great distance, we may be allowed to doubt the accuracy of his supposition as to the species. Upon the continental parts of Europe it is very plentiful, extending its winter migration farther to the south than the Teal and other Ducks. It is also widely spread over the northern parts of the Asiatic Continent, as far as Kamtschatka; but is not enumerated amongst the American birds by WILSON, or any other transatlantic ornithologist, although TEMMINCK (in his *Manuel*) states it to belong to the northern part of that Continent.—

Food. Its habits are very similar to those of the Teal, and its food consists of insects and larvæ, seeds of water-plants, &c. which it obtains by sifting the mud with its bill,—a mode of feeding common to this and the preceding genera. When in confinement, it has been observed to moisten such food as grain, before swallowing it.—It breeds amongst the rank

Nest, &c. herbage by the sides of lakes and pools; and its eggs are reported as of a cream-white, with indistinct spots of a deeper shade; which latter circumstance may be a matter of doubt, as not being peculiar to the present family. Its usual cry is a low hoarse croak.

PLATE 53. Represents the Male and Female of the natural size.

General
description.

Male.

Crown of the head, occiput, and list down the back part of the neck, dark umber-brown. Chin black. Band over the eye, and which is extended down the neck, pure white. Cheeks and upper part of the neck chestnut-brown, finely rayed with white. Lower part of the neck and breast pale buff, beautifully varied with spots and semicircular bars of black. Back hair-brown, glossed with green, and the feathers margined paler. Scapulars long and acuminate, black, with a central streak of white. Wing-coverts pale French grey. Speculum glossy leek-green. Belly white. Flanks rayed with black. Vent,

upper and under tail-coverts yellowish-white, spotted with black. Bill blackish-brown. Legs greyish-black. Throat and chin white. Hind part of neck, and upper parts of body, hair-brown, the feathers being margined with white. Wing-coverts dark ash-grey. Lower part of breast and belly white. Flanks and abdomen spotted with hair-brown. Female.

BIMACULATED TEAL.

QUERQUEDULA GLOECITANS, Vigors.

PLATE LV. and LV.*

Querquedula gloecitans, Vigors in Trans. Linn. Soc. 14. 559.
Anas gloecitans, Pall. Act. Stock. 1779. 40. t. 33. f. 1.—*Gmel. Syst.* 1. 526.
 —*Lath. Ind. Orn.* 2. 862. sp. 75.—*Flem. Br. Anim.* 1. 125. sp. 193.
Mareca gloecitans, Steph. Shaw's Zool. 12. 140.
Bimaculated Duck, Penn. Br. Zool. 2. 602. No. 287. pl. 100.—*Lath. Syn.* 6. 521.—*Mont. Ornith. Dict.* 1.—*Bewick's Br. Birds*, 2d ed. 1826. p. t. 362.

I HAVE adopted the views of my friend Mr VIGORS, in assigning to this rare and handsome species a station amongst the Teals, to which it shews a near affinity in the length and form of its bill, graduated tail, and the general distribution of colours in its plumage. In these islands, its appearance seems to be of very rare occurrence, as three specimens only have been hitherto recorded. The first of these was a male bird, taken in a decoy in 1771, described and accurately figured by PENNANT in his "British Zoology;" and the next a male and female, also taken in a decoy in 1812, and from which the figures in the present work were taken. These last came into the possession of Mr VIGORS, by whom they were subsequently presented to the Zoological Society, and now enrich their museum. This species appears to be an equal stranger on the continental parts of Europe, and is altogether omitted by TEMMINCK, in his list of European

Very rare
 visitant.

birds. Its native country is said to be the northern part of Asia, being common in Eastern Siberia, upon the Lena and other rivers, as well as in the vicinity of the Lake Baikal. Of its habits, and other elucidating points of its history, I am unable to give any account; nor does it appear that any attention was given to the construction of the windpipe and other anatomical details, in the above mentioned specimens.

PLATE 55. Represents the Male bird of the natural size, from the specimen in the museum of the Zoological Society.

General
description.

Male.

Bill blackish-grey, passing towards the base and edges into orange-yellow. Front, crown, and occiput very deep reddish-brown, glossed with purplish-black, and passing upon the hind part of the neck into deep violet-purple. Between the bill and eyes, and behind the ear-coverts, are two large irregular patches of chestnut-brown, margined and varied with white. Sides of the neck and cheeks glossy duck-green, the rest of the upper part of the neck and throat being greenish-black. Front of the lower part of the neck, and sides of the breast, reddish-brown, with oval black spots. The middle part of the breast pale reddish-brown, also spotted with black. Ground colour of the mantle pale sienna-yellow, undulated with black lines. Scapulars the same, tipped with glossy Scotch blue. Wing-coverts hair-brown, the lower range having pale wood-brown tips. Speculum dark green, glossed with purple. Upper and under tail-coverts greenish-black, glossed with purple. Tail wedge-shaped, with the two middle feathers black, narrow, acuminate, and much longer than the rest, which are hair-brown, margined with white. Belly and abdomen yellowish-white, with undulating black lines, most distinct upon the flanks. Legs and feet pale orange.

PLATE 55.* Natural size.

Chin and throat pale buff. Head and neck the same, but Female.
with spots and streaks of black, those upon the crown of the head being larger and more distinct. Lower part of the neck, and sides of the breast, pale yellowish-brown, with blackish-brown spots. Flanks variegated with yellowish-brown and blackish-brown. Upper parts blackish-brown, the feathers being deeply margined with reddish-white and pale yellowish-brown. Lesser wing-coverts hair-brown, with the lower tier deeply tipped with pale reddish-brown. The upper half of the speculum green, with purple reflections; the lower half velvet-black, with white tips to the feathers. Quills and tail hair-brown, the latter margined with white and reddish-white. Legs orange.

GENUS MARECA, STEPH. WIGEON.

GENERIC CHARACTERS.

BILL shorter than the head; higher than broad at the base; strait from before the nostrils; flattened and narrowing towards the tip, which is armed with a middle-sized hooked nail. Mandibles laminato-dentate, with the points of the laminæ of the upper mandible slightly projecting, in the centre of the bill, beyond the margins.

Nostrils lateral, placed near the base of the bill, small, oval, pervious.

Wings acuminate. Tail wedge-shaped, consisting of fourteen feathers, acute.

Feet of four toes, three before, all united by a membrane; hind toe small, having a narrow web, and resting with its tip on the ground.

The Wigeons are distinguished from the Teals by a much shorter and less cylindrical bill, and from the Ducks, by that member becoming more contracted and narrow, instead of widening towards its tip. The laminae of the bill are also broader and set wider apart, approaching in form nearer to those of the subfamily *Anserina*. These birds also vary in their habits, for instead of searching and sifting the mud with their bills for insects, seeds, &c., upon which food the preceding genera chiefly subsist, they live principally on grasses and vegetable diet, which they pluck in the same manner as Geese. Their flight is strong and swift, and they have a peculiar shrill whistling call-note. In the shape of the tracheal labyrinth they resemble more the Pintail than any of the other species; and the middle feathers of the tail are also acute, and considerably longer than the rest.

COMMON WIGEON.

MARECA PENELOPE, Mihi.

PLATE LII.

- Mareca fistularis*, *Shaw's Zool.* 12. 131. pl. 50.
Anas Penelope, *Linn. Syst.* 1. 202. 27.—*Gmel. Syst.* 1. 527.—*Raii Syn.* 146.
A. 3.—*Will.* 288. t. 72.—*Lath. Ind. Orn.* 2. 860. sp. 71.—*Flem. Br. Anim.* 1. 124. sp. 190.
Anas fistularis, *Briss. Orn.* 6. 391. 21. t. 35. f. 2.
Le Canard Siffleur, *Buff. Ois.* 9. 169 t. 10. et 11.—*Temm. Man. d'Ornith.* 2. 840.
Le Siffleur, *Cuv. Reg. Anim.* 1. 538.
Pfeifente, *Bechst. Naturg. Deut.* 4. 1109.—*Meyer, Tasschenb.* 2. 541.
Wigeon, *Whewer, or Whim, Penn. Br. Zool.* 2. 601. No. 286.—*Arct. Zool.* 2. 574. K.—*Will. (Angl.)* 375. t. 72.—*Albin's Birds*, 2. pl. 99.—*Lath. Syn.* 6. 518. 63.—*Id. Sup.* 2. 354.—*Id. in Trans. Linn. Soc.* 4. pl. 13. f. 9. (Trachea).—*Mont. Ornith. Dict.* 2.—*Id. Sup.*—*Lewin's Br. Birds*, 7. pl. 251.—*Bewick's Birds*, ed. 1826, 2. p. t. 350.—*Rennie's Mont. Ornith. Dict.* 542.
Common Wigeon, *Shaw's Zool.* 12. 131. pl. 50.
 PROVINCIAL—Paddle-whew, Yellow Poll, Whew-Duck.

Periodical As a winter visitant to the British Isles, the Wigeon is
 visitant. more numerous, and, I may add, more generally distribut-

ed than any other species; for its habitats embrace not only the fresh-water lakes of the interior, but the whole circuit of our coasts, wherever they are suitable to its economy. Such are bays and other shores covered with a slimy deposite, the mouths of rivers, &c., all of which produce abundantly the particular sorts of vegetable food upon which this species subsists. Vast numbers of Wigeons are annually taken in the decoys, the amount, in some of the southern counties (according to MONTAGU), surpassing that of all the other wild fowl taken collectively. In districts where the decoy has not been introduced, they are obtained by the Punt and its swivel-mounted duck-gun, or shot during the moonlight nights by fowlers, who station themselves in places where the birds are accustomed to feed, which they do after night-fall, like most of the species in this subfamily. During the early part of the winter their flesh is delicate and well-flavoured, but after Christmas (I speak of those taken on the coast) it becomes rather rank, which may be attributed to a failure of the early vegetable food, and an increased consumption of the stronger algæ, and perhaps of small molluscous animals. In Northumberland, where they abound upon several parts of the coast, they are sold for eighteen-pence the couple, being half the price of the Mallard and Brent Goose. They usually make their first appearance in this county about the 20th day of September, in small companies, which are on the gradual increase till about the beginning of November, when the migration appears to be completed. Early in March they again commence their polar movement, or return to summer quarters, and by the month of April the coast is entirely deserted. The northern countries of Europe, even to very high latitudes, as well as those of Northern Asia, are the native regions of these birds; and though TEMMINCK mentions them as sometimes breeding in Holland, a parallel as low as our own, I am not aware that they have ever been ascertained to do so in Britain. At night, their time of activity, they fly in compact bodies, and are easily distinguish-

Food.

ed, when passing, by their peculiar whistling call-note, and from the sound of which has arisen their trivial name of *Whew-Duck*. They are easily domesticated, and thrive well when supplied with plenty of water; but do not breed in confinement, at least the female, though she may occasionally lay eggs, will not provide a nest, or go through the process of incubation. It is, however, a singular fact, that a hybrid progeny has been produced between the male Wigeon and the female Pintail, although females of his own species were kept on the same piece of water. The mules from this cross, as might be expected, were barren*. It has also been known to pair with the Common Duck, in which case the eggs were also prolific. The form of the tracheal labyrinth of the Wigeon comes nearer to that of the Pintail than any other, being nearly globular; its attachment, however, to the bony arch of the larynx is different, the bottom of that capsule being nearly on the same line with the arch, whereas in the Pintail it extends considerably below it. It is also of smaller size.—The eggs of the Wigeon are stated to be eight or ten in number, and their colour a pale greenish-white.

Eggs.

PLATE 52. Represents the male and female of the natural size.

General
descrip-
tion.
Male.

Fig. 1. the Male.—Bill bluish-grey, with the tip and nail black. Forehead and crown pale buff-orange. The rest of the head, and the upper part of the neck, orange-brown, with small specks upon the cheeks. Chin and throat black. Lower part of the neck and breast pale brownish-purple red, tinged with ash-grey. Lower part of the back of neck beautifully barred with black and pale reddish-white. Back, scapulars, sides, and flanks finely rayed with zigzag lines of black and white.

* See MONTAGU'S Supplement to his Ornithological Dictionary, where this and other curious facts respecting the Wigeon are narrated at considerable length.

Tertials having their inner webs deep grey, the outer ones velvet-black, margined with pure white. Smaller wing-coverts, next to the shoulders, grey, finely powdered with white, the others pure white. The greater coverts with velvet-black tips. Speculum glossy duck-green in the centre, with the lower part and tips of the feathers black. Quills pale hair-brown. Belly and abdomen white. Under and side tail-coverts black, glossed with green. Tail brown, tinged with grey; the feathers sharp-pointed, and the two middle ones longer than the rest. Legs and toes bluish-grey.

In summer, the head and neck become spotted all over with black. The breast also, and sides of the body, acquire a reddish-brown colour, with darker bars and lines upon the latter. Back and scapulars mottled and varied with reddish-brown and dusky feathers in large bars, and others with fine black and white zigzag lines. Under tail-coverts white, with reddish-brown bars.

Fig. 2. the Female.—Head and neck yellowish-brown, Female. thickly covered with blackish-brown spots and specks. Upper parts of the body greyish-black, the feathers being margined with greyish-white and yellowish-brown. Breast, belly, and abdomen white. Flanks yellowish-brown. Under tail-coverts white, spotted with blackish-brown. Legs and bill deep bluish-grey.

The young of both sexes resemble the adult female, but the tints are darker and not so distinct.

SUBFAMILY *FULIGULINA*.

HIND toe with a lobated membrane. Legs placed far backwards. Neck thick and short. Dive in search of food.

GENUS *OIDEMIA*, *FLEM.* SCOTER.

GENERIC CHARACTERS.

BILL swollen or tuberculated at the base, large, elevated, and strong; the tip much depressed and flattened, terminated by a large flat dertrum or nail, which has its extremity rounded and slightly deflected. Mandibles laminated, with the plates broad, strong, and widely set.

Nostrils lateral, elevated, oval, placed near the middle of the bill.

Wings of mean length, concave, acute.—Tail short, graduated, acute.

Legs far behind the centre of gravity; tarsi short; feet large, of four toes, three before and one behind. Outer toe as long as the middle one, and much longer than the tarsus; hind toe with a large lobated membrane.

The members of this genus are distinguished by a prevailing darkness of plumage; the males being clothed in a garb of glossy black, the females in one of a brown or sooty complexion. In some species it is uniform and without relief, but in others, which approach nearer to the succeeding genus *Somateria* (Eider), it is relieved by small patches of white. They are strictly marine birds, inhabiting the ocean or inland saline seas; and from adventitious circumstances only are they ever seen upon fresh water lakes, or on rivers beyond the influence of the tide. They swim well, and obtain their food (such as crustaceous and molluscou animals) by div-

ing, for which their formation is well adapted; and they are able to remain for a long time submerged. They rarely quit the water, except for incubation; and their flight, though usually near the surface, is yet strong and rapid. Upon reviewing the species hitherto assigned to this genus, I am inclined to think that *Oidemia nigra*, *Oid. leucocephala*, and another (said to be new) from North America, will have to be separated from *Oid. fusca*, *Oid. perspicillata*, not only on account of the difference of form shewn in the basal part of the bill, but also from the relative proportions of the wings. In *Oid. nigra*, the first quill is *shorter* than the second, and its anterior part very narrow in consequence of a deep notch or emargination at about half its length. In *Oid. fusca* and *perspicillata*, on the contrary, the first quill is the *longest*, and without any emargination whatever. The gradation from the Velvet Scoter (*Oid. fusca*), through *Oid. perspicillata*, to the Eiders is gradual, and presents a beautiful instance of the affinities that connect the various genera with each other.

BLACK SCOTER.

OIDEMIA NIGRA, *Flem.*

PLATE LXVIII.

Oidemia nigra, *Flem.* Br. Anim. 1. 119. sp. 174.—*Shaw's Zool.* 12. 213. pl. 59.

Anas nigra, *Linn. Syst.* 1. 196. 7.—*Gmel. Syst.* 1. 508.—*Lath. Ind. Orn.* 2. 848. sp. 43.—*Briss.* 6. 420. 28. t. 38. f. 2.—*Wils. Amer. Orn.* 8. 135. pl. 92. f. 2.

Anas nigra minor, *Raii Syn.* 141. A. 5.—*Will.* 280. t. 94.

La Macreuse, *Buff. Ois.* 9. 234. t. 16.—*Id. Pl. Enl.* 978.

Canard Macreuse, *Temmin. Man. d'Orn.* 2. 856.

Die Trauer Ente, *Bechst. Naturg. Deut.* 4. 963.

Scoter or Black Diver, *Penn. Br. Zool.* 2. 584. No. 273.—*Arct. Zool.* 2. 484.—*Lath. Syn.* 6. 480.—*Levin's Br. Birds*, 7. pl. 249.—*Mont. Orn.*

Dict. and Sup.—*Bewick's Br. Birds*, 2. ed. 1826, p. t. 322.—*Wils. Amer. Orn.* 8. 135. pl. 92. f. 2.

Black Scoter, *Flem.* Br. Anim. 1. 119. sp. 174.—*Shaw's Zool.* 12. 213. pl. 59.

Anas cinerascens, *Bechst. Naturg. Deut.* 4. 1025.

Canard Grisette, *Temmin. Man. d'Ornith.* 1. ed. p. 555.

} Young.

Periodical
visitant.

Food.

DURING the winter, and till the season of spring is tolerably well advanced, the Scoter is to be found upon our shores, frequenting more particularly those which are of rocky character, and which of course abound most in crustacea, bivalve, mollusca, and other small marine animals, upon which it entirely subsists. To obtain these it is in the constant habit of diving, and is able to remain submerged for a considerable time; but as this can only be efficacious in water of a certain depth, it approaches at every flow of the tide rather near to the shore, at least where the depth does not exceed a few fathoms, swimming with ease amidst the heaviest surf, and pursuing its diving investigations with unwearied diligence. In France, where an accommodating creed has allowed the Scoter, and its congener the Velvet Scoter, to rank as *fish*, and of course to be eaten on fast days, advantage has been taken of their habits by the fishermen on those coasts, who, at the ebb, spread their nets horizontally about two or three feet above the beds of shell-fish, which these birds are observed most to haunt. Upon the return of the tide the Scoters approach in great numbers, and, diving for their food, become entangled in the meshes of the floating nets; and in this way it is said that twenty or thirty dozens have been taken in a single tide. In this country they are universally rejected as food for the very qualities that render them acceptable to our neighbours, viz. the oiliness and fishy flavour of the flesh, and consequently no attempts are made to take them, though there is little doubt but that they might be caught with equal ease, and in as great numbers on some parts of our coast. The flight of the Scoter is straight and tolerably rapid, but near the surface of the water, and seldom to any great distance at a time. Its wings are rather short and concave (like the typical *Natatores*), and the first quill is strongly notched at about half its length, the remaining part to the tip being very narrow. This circumstance, as well as the proportionate shortness of that to the other quills, as compared with *Oid. fusca* and *Oid. perspicillata*,

unnoticed by naturalists, furnish characteristics of sufficient apparent value (as I have before stated), to warrant its separation from them. The trachea also does not possess the distinct and well defined enlargements, or bony swellings, so conspicuous in the other two species, but gradually increases from the larynx to the middle, where it attains its greatest diameter, from whence it again decreases to the lower larynx or bone of divarication, which is slightly swollen, and to which the bronchi, formed of cartilaginous rings, and of a greater diameter than any part of the tracheal tube, are attached. Upon land this bird walks with difficulty, and in a semi-erect position, from the posterior situation of the legs. It abounds throughout the northern parts of Europe, Asia, and America, and is found during the summer in very high latitudes. It breeds near to the coast, or on the banks of rivers, within the course of the tides, or upon the edges of such inland seas as it may frequent. The nest is formed of Nest, &c. grass and other vegetable matter, mixed and lined with a quantity of its own down; and the eggs, from six to ten in number, are white. The gizzard of this species is of great size and muscular power, well adapted for triturating the shelly and tough food upon which, as I have before noticed, it subsists. Dr FLEMING, in his History of British Animals, has inserted the White-headed Duck (*Oidemia leucocephala*), as a rare British species, but his description, both as to size and plumage, does not accord with those of LATHAM and TEMMINCK. I am therefore inclined to think that he has mistaken the young or female of the Black Scoter for the above species; or that he has described one hitherto unnoticed, but nearly allied to our present bird. The latter, I suspect, to be the case, as I possess a specimen said to have been killed upon the Scottish coast, which I cannot reconcile with *Oid. nigra*. The plumage of this bird (which I take to be a female or young male) is blackish-brown above; the lower parts pale broccoli-brown, with lighter undulations; the crown of the head, occiput, and nape of the neck, deep black-

ish-brown; the *cheeks, throat, and sides of the upper part of neck*, greyish-white, tinged with pale hair-brown. Its bill is longer and narrower than that of the Scoter, with the nail smaller and *suddenly contracting towards its extremity*. The first quill-feather is rather shorter than the second, and though tapering and small toward the tip, has not the decided notch observable in that of our present species. The tail consists of sixteen feathers *.

PLATE 68. Represents the adult Male of the natural size.

General
description.

Male.

Bill black, with the exception of a band between the basal tubercle, the nostrils, and a rounded space in front of them, which parts are orange. Circle round the eye yellow. Irides brown. Whole of the plumage deep ink-black, the head and neck being glossed with Prussian blue. Legs and toes reddish-black.

Female.

The Female is without the marked tubercle at the base of the bill, that part being merely elevated. Head and upper parts of the body blackish-brown, margined paler. Chin and throat greyish-white. Under parts very pale broccoli-brown, with a silky lustre.

The young males are very similar to the females, but the white upon the throat is less tinged with brown and grey. As they advance in age the tubercle begins to swell, and the orange on the bill becomes apparent.

* Since writing the above, I have received the second part of that beautiful and scientific work, the "*Fauna Borealis Americana*," and from the description there given of *Oidemia Americana*, I suspect that my bird belongs to that species. If so, and I can prove it to be a British killed specimen, it will certainly be entitled to a place in the list of our Fauna.

VELVET SCÓTER.

OIDEMIA FUSCA, Flem.

PLATE LXVII.

- Oidemia fusca, Flem.* Br. Anim. 1. 119. sp. 173.—*Shaw's Zool.* 12. 116.
Anas fusca, Linn. Syst. 1. 196. 6.—*Gmel.* Syst. 1. 507.—*Lath. Ind. Orn.* 2. 848. sp. 44.—*Wils. Amer. Orn.* 8. 151. pl. 72. f. 3. male.
Anas nigra major, Raii Syn. 141. A. 4.—*Will.* p. 278. pl. 70.—*Briss. Orn.* 6. 423. 29.
 Grande ou double Macreuse, *Temm.* Man. d'Ornith. 2. 854.
 Samme-ente, *Bechst.* Naturg. Deut. 4. 954.—*Meyer, Tasschenb.* Deut. 2. 516.
 Great Black Duck, *Will.* (Angl.) 363. 670.
 Velvet Duck, *Penn.* Br. Zool. 2. 583. No. 272. pl. 96.—*Arct. Zool.* 2. 482.—*Lath. Syn.* 6. 482. 37.—*Id.* Sup. 274.—*Id.* Sup. 2. 350.—*Id.* in Trans. Linn. Soc. 4. 119. pl. 15. f. 3. (Trachea).—*Lewin's Br. Birds*, 7. 247.—*Pult. Cat. Dorset.* p. 20.—*Mont. Orn. Dict.*—*Id.* Sup.—*Bewick's Br. Birds*, ed. 1826. 2. p. t. 320.—*Wils. Amer. Orn.* 8. 151. pl. 72. f. 3.
 Velvet Scoter, *Flem.* Br. Anim. 1. 119.—*Id.* 173.—*Shaw's Zool.* 12. 216.

PROVINCIAL.—Black Diver, Double Scoter, Black Duck.

THIS species is much larger than the preceding, and may always be distinguished from it by the form of the bill, as well as by the white band upon the wings, and a spot of the same colour at the posterior angle of the eye. It is a regular winter visitant upon our coasts, and frequents the same localities as the Black Scoter, with which it frequently associates, and to which it bears a close resemblance in its general habits. Its bill approaches in form nearer to that of *Oid. perspicillata*, the tubercle at the base not rising immediately in front as in *Oid. nigra*, but being double, and rising on the sides, where they, however, differ even from those of the former bird, in being partly covered by small feathers, and not left entirely exposed. TEMMINCK's distinctive character of this species is therefore inapplicable, when he says, "*Bec sans renflemens lateraux.*" The wings, also, of this and *Oid. perspicillata* differ in their proportions from those of *Oid. nigra*, the first quill being longer than the second, and the longest in the wing. This feather also tapers gradually

Periodical visitant.

towards its point, without any notch or sudden decrease; and the tail, instead of *sixteen*, consists of *fourteen* feathers. The trachea is distinguished by two bony enlargements, the first of which is situated immediately below the larynx, of an oval shape, and in old specimens is nearly an inch in length. The second is about two-thirds down the trachea, where it suddenly swells out into a large rounded capsule, flat on one side, and convex on the other; the bone of divarication, where the rings become lost, being, in old birds, slightly swollen on each side, where the bronchi, which are of small diameter, are attached to it. The Velvet Scoter is found in all the northern parts of Europe, and its winter migration to warmer latitudes is regulated by the severity or mildness of the season. It is also very abundant in all the Arctic regions of Asia, where, in Kamtschatka, Siberia, &c. it is reported to breed upon the banks of the larger rivers,

- Nest, &c. within the effects of the tide. The nest is formed of grass, and lined with down, and the eggs, from eight to ten in number, are white. It is met with also in North America. Its flesh is as unpalatable as that of the Black Scoter, on which account it is seldom pursued by the fowler, but is occasionally caught in the stake-nets set for salmon, &c.—In those
- Food. which I have dissected, the gizzard, which is large and strong, was filled with the remains of *mytilus*, *macrura*, *solen*, and other shelly mollusca, intermixed with the spawn of fish or crustaceous animals.

PLATE 67. Represents the Male and Female of the natural size.

General
description.
Male.

The plumage of the male bird is of an intense velvet-black, with the exception of the spot at the posterior angle of the eye, and the secondary quills, which are white. Upper part of the base of the upper mandible, nostrils, and margins of both mandibles, black; the rest of the bill, including the lateral tubercles, bright ornament-orange, with the tip of the nail darker. Inner

part of the tarsus carmine-red, the outer part, and toes, orange-red, with the membranes of the toes black.

The whole of the upper parts of the body of an uniform Female. pitch (or brownish) black, the under parts much lighter. Between the bill, the eyes, and the auriculars, is a patch of greyish-white. Bill blackish-brown. Legs and toes dull brick-red.

The young males are like the females till after the second moult.

SURF SCOTER.

OIDEMIA PERSPICILLATA, Flem.

PLATE LXIX.

Oidemia perspicillata, Flem. Br. Anim. 1. 119.—Steph. Shaw's Zool. 12. 219.

Anas perspicillata, Linn. Syst. 1. 201. 25.—Gmel. Syst. 1. 524.—Lath. Ind. Orn. 2. 347. sp. 42.—Wils. Amer. Ornith. 3. 49. pl. 67, f. 1. male.

Anas nigra major, freti Hudsonis, 6. 425. 30.

Macreuse à large bec, ou Marchand, Buff. Ois. 9. 244.—Id. Pl. Enl. 995.

Canard Marchand, Temm. Man. d'Ornith. 2. 853.

Black Duck, Edward's Glean. pl. 15. 5.—Penn. Arct. Zool. 2. 483.—Lath. Syn. 6. 479.

Surf Duck, Wils. Amer. Orn. 3. 49. pl. 67. f. 1. male.

Great-beaked Scoter, Shaw's Zool. 12. 219.

I HAVE admitted this bird into the list of stragglers, or Rare rare visitants, as it has been occasionally met with about the shores of the Orkney and Shetland Isles. In the high latitudes of the North American Continent, such as Hudson's and Baffin's Bays, it is very abundant, and during winter, or its equatorial migration, is spread along those coasts, as far to the southward as Florida. In this species the bill has not that flatness and expansion in front of the nostrils that are so conspicuous in *Oid. nigra* and *Oid. fusca*, but assumes, in a great degree, the characters of the succeeding genus *Somateria* (Eider), by the tip being suddenly contracted, and the nail (which is also more convex than in the other

species), being brought to a narrow rounded point; the entering angle of the forehead also projects, as in the common Eider, as far as the nostrils. The lateral parts of the bill at the base are very tumid, and are particular from the marking there displayed, these swellings being entirely exposed, and not in part concealed by the feathers, as in the Velvet Scoter. In the proportions of the wings, and the number of the tail-feathers, it agrees with that bird. The anatomy of the trachea also, according to the description of it by WILSON, in its general character, resembles that of *Oid. fusca*, for he says, "there was a singular hard expansion at the commencement of the windpipe, and another much larger, about three quarters of an inch above where it separates into the two lobes of the lungs; this last was larger than a Spanish hazle-nut, *flat* on one side, and *convex* on the other.—Like its congeners, this bird feeds upon the various bivalve shell-fish and crustacea, for which it is constantly diving. It is always seen upon the water, and very frequently amidst the heaviest surf, in which it appears to delight, and to sport quite at ease; and on which account it has obtained in America the trivial name of the *Surf Duck*. Their skins, WILSON observes, are very strong, and their flesh coarse, tasting of fish; and they are, he adds, shy birds, and not easily approached.

Food.

General
description.

Male.

PLATE 69. represents the Male bird of the natural size.

Bill from the angle of the forehead to the tip, only one inch and a half long; and from the posterior part of the lateral tubercles, two inches and three quarters in length. The front part of the bill orpiment-orange; the lateral swollen part having a large patch of black, in front of which is another of a pearl-grey colour. The lamellæ of the bill coarse and widely set. Irides cream-white. The whole of the plumage glossy ink-black, with the exception of an angular patch of white-

upon the forehead, and another on the back part of the neck. Legs and toes reddish-orange.

The Female is of a sooty-brown, lightest about the neck and belly. The prominences on the bill are small, and of a dusky colour. Female

GENUS SOMATERIA, *LEACH*. EIDER.

GENERIC CHARACTERS.

BILL swollen and elevated at the base, extending high up the forehead, forked or divided by an acute angle of feathers. Before the nostrils strait, semi-cylindrical, and narrow; terminated by a strong vaulted nail, hooked, and rounded at the extremity. Both mandibles laminato-dentate, with the plates strong and widely set. Nostrils lateral, oval, small, placed towards the middle of the bill.

Wings of mean length, acute, with the first quill-feather the longest. Tail of fourteen feathers.

Legs short; feet of four toes, three before and one behind; the front toes webbed, and the outer nearly as long as the middle one; hind toe with a long lobated membrane.

The Eiders are distinguished from the preceding genus by the variegated or piebald plumage of the male birds, and by the form of the bill, which is more cylindrical and narrowed towards the tip, and armed with a strong hooked nail. The elevated part at its base (in one species rising into very large lobes) is divided by a narrow stripe of feathers, forming, as it were, a projecting angle of the forehead. The lateral parts of the upper mandible are also without that decided tumescence that is seen in the nearly allied species of *Scoters*. These birds inhabit the northern regions of the globe, and are found to extend to the highest latitudes yet

explored. They are strictly confined to the ocean, feeding upon Crustacea, molluscous shell-fish, &c., which they obtain by diving. Their flight is strong and rapid, but seldom at any great elevation.

COMMON EIDER.

SOMATERIA MOLLISSIMA, Leach.

PLATE LXX. AND LXX*.

- Somateria mollissima*, *Flem.* Br. Anim. 1. 119. sp. 176.—*Shaw's Zool.* 12. 224. pl. 60.
Anas mollissima, *Linn.* 1. 178. 15.—*Gmel. Syst.* 1. 514.—*Lath. Ind. Orn.* 2. 845. sp. 35.—*Wils. Amer. Ornith.* 8. 122. pl. 91. f. 2. and 3.
Anas St Cuthberti, *Raii Syn.* 141. A. 3.—*Will.* 278. t. 77.
Anser lanuginosus, *Brisson.* Orn. 6. 294. 13. t. 29. 30.
 Oie à Duvet, ou Eider, *Buff.* Ois. 9. 103. t. 6.—*Id.* Pl. Enl. 289. and 209. male et femelle.
 Canard Eider, *Temm.* Man. d'Ornith. 2. 848.
 Die Eidergans, *Bechst.* Naturg. Deut. 4. 926.
 Eiterente, *Meyer*, Tasschenb. Deut. 2. 507.
 Great Black and White Duck, *Edward's Glean.* t. 98. m. and f.
 Eider or Cuthbert Duck, *Penn.* Br. Zool. 2. 581. No. 271.—*Arct. Zool.* 2. No. 480.—*Will. (Angl.)* 362. 76.—*Lath. Syn.* 6. Heft. 29.—*Id.* Sup. 274.—*Levin's Br. Birds*, 7. pl. 244.—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826. 2. p. t. 305.—*Wils. Amer. Ornith.* 8. 122. pl. 91. f. 2. male, f. 3. female.—*Shaw's Zool.* 12. 224. pl. 60. male.—*Flem. Br. Anim.* 1. 119. sp. 176.

PROVINCIAL—Eider, Cuthbert Duck, Culbert Duck, Dunter Goose.

IN Britain the range of this valuable species extends to about the 55th degree of north latitude, to the southward of which it becomes of very rare occurrence. Its limits, however, towards the pole are scarcely ascertained, as it has been found, I believe, in the highest latitudes yet penetrated by navigators. In Iceland, Spitzbergen, and other arctic regions of Europe, it is very abundant; and in those cold countries is highly beneficial to the inhabitants, on account of its feathers, elastic down, eggs, &c. It is equally common in parallel latitudes of the North American continent, and, in fact, may be considered a general inhabitant of the Frigid

Zone. Upon the Northumbrian coast many Eiders breed upon the group of *Fern Islands**, situated towards the northern extremity of that county, and from two to eight miles distant from the shore, and which, with *Coquet Island* (about ten miles farther along the coast), may be reckoned the most southern breeding-stations of these birds. About April they are seen assembling in small groups along the shores of the mainland, from whence they cross over to the Islands in May, soon after which the females begin to prepare their nests, and they usually commence laying about the twentieth of that month. The males, as soon as this takes place, and incubation commences, leave the females, and again spread themselves along the shore, in companies of four or five together, and do not (as far as my observation goes) "continue on watch near the shore, as long as the females remain sitting," and then desert both her and the newly hatched brood, as mentioned in SHAW's Zoology. The usual number of eggs is five, of a pale asparagus-green colour, of an oblong shape, and not much less than those of a Goose. The nest is com-
Nest, &c.
posed of dried grasses, mixed with a quantity of the smaller algæ, and as incubation proceeds (and which lasts for a month) a lining of down, plucked by the bird from her own body, is added. This addition is made daily, and at last becomes so considerable in mass, as to envelope and entirely conceal the eggs, contributing, perhaps by its effect, as a non-conductor of heat, to the perfect development of the foetus, and serving also as a protection from Gulls and other enemies. The young, as soon as hatched, are conducted to the water, which in some instances must be effected by the parent conveying them in her bill, as I have often seen the nest in such situations as to preclude the possibility of their ar-

* In consequence of having been wantonly molested in this locality during the breeding season, the Eiders have of late years very much decreased; and the same cause has been equally fatal to the Cormorants, Guillemots, Gulls, Terns, &c., which were but a short time since astonishingly numerous on these rocky islands.

living at it in any other way ; and indeed, the keeper of one of the lighthouses (upon the impending rock close to which an Eider Duck, for many seasons, had her nest, and hatched her young) assured me, that he had seen the bird engaged in this interesting duty. The down of the Eider is remarkably light and elastic, not more so perhaps than that of its congener the *King Eider*, the Scoter, and some others of the oceanic Anatidæ ; but as it is procured in greater quantity from this species, the whole imported from Iceland and other northern countries (though mixed with that of several others) is still sold under the denomination of *Eider down*. From the nest of two or three of these birds, I have frequently procured as much down as would fill a middling-sized pillow, though the same, when compressed, was not above two handfuls, and did not weigh above an ounce. As plucked from the living bird, it is much more elastic than when taken from the body after death,—a fact confirmative of what I have formerly advanced, viz. that the plumage is not mere inert matter, as believed by MONTAGU and others, but is endowed with a kind of living principle, and influenced by the state and condition of the bird. In Iceland, Greenland, &c. where the Eider down forms a great branch of their commerce, and where the birds breed in great numbers near to each other, the natives wait anxiously for the event. The first production of eggs, together with the down, is taken from them, but the next they are allowed to incubate, and rear the young, though a part of the down is from time to time removed, the female continuing to supply it as long as any remains upon the lower part of her body.—The food of the Eider consists of various species of shell-fish, crustaceous animals, and the roes of these and fishes. Such as I have dissected were generally filled with the triturated remains of mytili, tellinæ, &c. ; and twice I found the subjects gorged with the spawn of fish. They dive for their food like the Scoters, remaining for a long time submerged, and often in water of six or eight fathoms deep. They also fly with great

Food.

strength, and at the rate (as calculated) of more than ninety miles in the hour. When approached in a boat they generally take wing whilst beyond gun-shot, and when suddenly surprized they dive; but if actively pursued, and compelled to dive repeatedly, they may be so far tired out as at last to be incapable of submerging with sufficient quickness to prevent a fatal aim being taken. In this manner I have often succeeded in procuring specimens; and the same mode, it appears, is in use amongst the Greenlanders, who strike them with their darts as they rise fatigued to the surface after long-continued pursuit. The trachea of the male bird is of equal diameter throughout its length, and composed of hard and perfect rings, lined with a membrane. The lower larynx, or bone of divarication, is enlarged in front, and furnished on the left side with an elevated, flatly globose, bony protuberance, or labyrinth, about the size of a large nut. The bronchi are large, swelling much toward their middle, and composed of imperfect rings, united by a membrane. That on the left side, which proceeds from the tympanum, is of much larger diameter than the other, and both suddenly decrease when they enter the substance of the lungs. Several attempts have been made to domesticate the Eider, but hitherto without much success; that it may be done with care and attention, I have no doubt, as I have twice succeeded in rearing these birds from the egg, and preserving them alive till upwards of twelve months; but as I had no appropriate place for them at the time, they fell victims to accident, being trodden upon by horses or cattle. Indeed, their sluggish nature, or rather their inactivity upon land, renders their escape from any sudden danger a matter of great difficulty. I know also other instances in which they have been reared from the egg to maturity. The Eider Drake is long in reaching the adult state, that plumage not being perfected before the fourth year. This would seem, analogically reasoning, to indicate a great longevity, as we find the Eagle and some other birds that do not attain per-

fection till after two or three years, endowed with singular length of life. The flesh of this species in the natural state, from the kind of food they subsist on, is very unpalatable; but would probably, under a different diet, lose its rank and fishy flavour.

PLATE 70. Represents the Adult Male of the natural size.

General
descrip-
tion.
Male.

Base of the bill and frontal plates honey-yellow, passing towards the nostrils and tip into oil-green; nail of the bill large, strong, vaulted, and of a yellowish-white. Frontlets, and upper part of the head, enclosing the eyes, Scotch-blue, divided from the crown backwards by a white band. On the nape and sides of the upper part of the neck is a large patch of pistachio-green, the feathers being fine, truncated, and silky, capable of being raised to form a ruff. Cheeks, throat, and lower part of the neck, white. Breast cream-yellow, with a vivaceous or purple tinge. Back, scapulars, and tertials white, tinged with straw-yellow, the latter acuminate and curled over the wings. Wing-coverts white. Rump, belly, abdomen, and vent black. Tail greyish-black. Legs honey-yellow, tinged with green.

PLATE 70 *. Represents the Female of the natural size, from a beautiful specimen killed in February, after the completion of the autumnal moult, and at which time the colours are deeper and brighter than at a more advanced period of the year.

Female.

Head and neck yellowish-brown (deepest upon the crown), and streaked with dusky. Plumage of the upper parts of the body a mixture of black, rich brown, and grey. Under parts brown, with darker undulations. Bill and legs deep greenish-grey.

Young.

The young males resemble the female till upwards of a year old, after which period they acquire a little white upon the head and cheeks, and the lower part of the

neck and breast assume the same colour ; the rest of the body remaining dark. The moult of the third year gives them a very piebald appearance by the acquisition of white upon the back and scapulars, and that of the fourth clothes them in the perfect garb of the adult.

KING EIDER.

SOMATERIA SPECTABILIS, Leach.

PLATE LXXI.

- Somateria spectabilis*, Steph. Shaw's Zool. 12. 229.—*Flem. Br. Anim.* 1. 120. sp. 177.
Anas spectabilis, Linn. Syst. 1. 195. 5.—*Gmel. Syst.* 1. 907.—*Lath. Ind. Ornith.* 2. 845. sp. 36.—*Sabine in Trans. Linn. Soc.* 12. 553. sp. 26.
Anas Freti Hudsonis, Briss. Orn. 6. 365. 15.
Le Canard à tête grise, Buff. Ois. 9. 253.—*Temm. Man. d'Ornith.* 2. 851.
Grey-headed Duck, Edw. Glean. pl. 154.
King Duck, Penn. Arct. Zool. 2. No. 481.—*Lath. Syn.* 6. 473. 30.—*Lewin's Br. Birds*, 7. pl. 245.—*Mont. Ornith. Dict. and App. to Sup.—Bewick's Br. Birds*, ed. 1826, 2. p. t. 310.
King Eider, *Flem. Br. Anim.* 1. 1200. sp. 177.—*Shaw's Zool.* 12. 229.

THE limit assigned to this species in Britain is considerably to the north of that of the Common Eider, as it has not been met with to the southward of the Orkneys, and the other northerly Scottish Isles. In one of the former (Papa Westra), Mr BULLOCK, proprietor of the late London Museum, found it breeding in the month of June ; but as he appears only to have met with a single nest during his tour, and the bird is mentioned by PENNANT as only *sometimes* visiting the Orkneys, it can scarcely be considered as entitled to the phrase used by Mr STEPHENS, in the Continuation of SHAW'S General Zoology, viz. " a bird *common* in the Orcaades and *other parts of Scotland*." In Greenland, Spitzbergen, and other countries of the Frigid Zone, up to very high latitudes, it is found in great abundance, in numbers equal to the Common Eider ; and with which it frequently associates, as we learn from Captain SABINE, in his

Food. Memoir of the Birds of Greenland. Its habits are also akin to those of the other, and its food is of the same nature. The down of the King Eider is of equal fineness and elasticity, and is collected by the natives indiscriminately with that of the preceding kind.—The nest is formed of algæ, Nest, &c. grass, moss, &c. according to what the locality may supply, and the eggs are in number from four to six, very similar in size and colour to those of its congener; and which, like them, are covered with the down plucked from the parent bird as incubation proceeds. From the figure given by Captain SABINE, of the lower part of the trachea of this species, it appears of similar formation to that of the Common Eider; the tympanum being nearly of the same size, and of the same flattened globular shape. The bronchi are also much alike, that proceeding from the enlargement being of a greater diameter towards its centre, and both suddenly contracting where they join the lungs. The King Eider is supposed, and I believe correctly, to be the same length of time in attaining maturity as the other species. By the Greenlanders the flesh is much esteemed, and the gibbous part (or elevated plates) of the bill is considered a great delicacy. The skins of these birds, sewed together, are formed into various comfortable articles of clothing.

PLATE 71. represents the Male and Female, rather below the natural size.

General
description.
Male.

Bill vermilion-red, with the nail flesh-red. The frontal plates of the bill, which are very large and perpendicular, deep orange. Legs and toes ochreous-yellow, with the webs darker. Frontlet line that surrounds the frontal plates, under eyelid, and the figure like a V on the throat, are deep velvet-black. Crown of the head, and nape of the neck, fine bluish-grey. Cheeks pistachio-green. The superciliary line and breast pale ochreous-yellow. Mantle, lesser wing-coverts, and sides of the rump, white. Scapulars, greater coverts, curved tertials,

rump and tail-coverts, belly and abdomen, ink-black. The border of the wings, greater quills, and tail, brownish-black.

The female so closely resembles in her colours the female of the Common Eider as to render minute description unnecessary. She may, however, always be distinguished from the other by the form of the frontal plates, which, instead of being horizontal, are nearly vertical. Female.

The young males resemble the females for the first year, and the changes seem to occur like those of the Common Eider.

GENUS FULIGULA, *RAY, LEACH.* POCHARD.

GENERIC CHARACTERS.

BILL as long as the head; slightly elevated at the base; broad, and nearly equally so throughout its length; depressed towards the tip, which is rounded and armed with a small deflected nail. Both mandibles laminated; the plates broad, and entirely concealed by the deflected margins of the bill. Nostrils at a short distance from the base, lateral, oblong, rather small. Wings concave, acute; the first and second quill-feathers being nearly equal in length. Tail generally short, rounded, consisting of sixteen or fourteen pointed feathers. Legs having the tarsus much shorter than the middle and outer toes. Feet large, webbed, with the outer and middle toes of equal length; hind toe having a large lobated membrane. General form short and broad; with the neck rather thick and short; and the legs placed far backwards.

The members of this genus, which are numerous, have the bill of similar shape to that of the former subfamily, but

the laminated plates are larger and coarser, and entirely concealed by the margins of the mandibles. In general form they are also much shorter, thicker, and more depressed; and the backward situation of the legs, with the great size of their feet, make them move awkwardly and badly on and. They swim well, though apparently deep in the water, from their flattened shape; and they are excellent divers. It is in this latter mode, indeed, they obtain the chief part of their food, consisting of aquatic plants and their roots, as well as mollusca and worms. They inhabit the rivers and lakes of the interior of the country, and some of them are occasionally found on the sea-coasts. The tracheal organization of the whole genus is upon one uniform plan, and the differences are only such as might naturally be expected in distinct species. The lower extremity or labyrinth consists of a bony box, or, as it is called, *Orca*, formed by the enlargement and ossification of the lower larynx; from the bottom of which the right bronchial tube issues. On the left side of the *orca*, and attached to it, is a large orbicular compressed chamber, called the Tympanum or *Drum*, formed by a bony arch, more or less covered by a thin membrane; and to the base of this the left bronchial tube is attached. The flight of the members of this genus is rapid, and sustained by quick strokes of the wings; and is often at a great elevation in the air. Their colours are generally plain, and not possessing much variety; and none of them have the metallic lustre on the secondary quills that distinguishes most of the *Anatinae*, which in them has been appropriately termed the Beauty Spot, or *Speculum*. They are natives of the Arctic Regions, passing the summer in very high latitudes; and in the winter their equatorial migrations are more or less extended according to the severity of the season. Their flesh is tender and palatable; in some species of fine flavour, as in *Fuligula Vallisneria*, from North America.

RED-HEADED POCHARD.

FULIGULA FERINA, Steph.

PLATE LXIII. FIG. 1.

Fuligula ferina, Steph. Shaw's Zool. 12. 193.*Anas ferina, Linn.* Syst. 1. 203. sp. 31.—*Gmel.* Syst. 1. 530.—*Lath.* Ind.Ornith. 2. 862. sp. 77.—*Wils.* Amer. Orn. 8. 119. pl. 70. fig. 6. male.*Anas rufa, Gmel.* Syst. 515. 71.—*Lath.* Ind. Orn. 2. 863. sp. 78.*Anas fera fusca, Raii* Syn. 143. A.*Nyroca ferina, Flem.* Brit. Anim. 1. 121. No. 182.*Penelope, Briss.* Orn. 6. 384. 19. t. 35. f. 1.*Milouin, Buff.* Ois. 9. 216.—*Id.* Pl. Enl. 303. male.*Canard Milouin, Temm.* Man. d'Orn. 2. 868.*Die Tafel-Ente, Bechst.* Naturg. Deut. 4. 1028.—*Meyer*, Tasschenb. Deut. 2. 527.*Pochard, or Red-headed Wigeon, Penn.* Br. Zool. 2. 600. No. 284.—*Arct.**Zool.* 2. 491.—*Albin's* Birds, 2. pl. 98.—*Lath.* Syn. 6. 523.—*Id.* Sup.2. 354.—*Id.* in Trans. Linn. Soc. 4. 116. pl. 14. f. 5. 6. (Trachea.)—*Lewin's* Br. Birds, 7. pl. 253.—*Mont.* Ornith. Dict. and Sup.—*Bewick's*Br. Birds, ed. 1826, p. t. 353.—*Wils.* Amer. Orn. 8. 119. pl. 70. f. 6.—*Flem.* Br. Anim. 1. 121. sp. 182.

PROVINCIAL.—Poker, Dun-Bird, Red-headed Poker, Great-headed Wigeon, Blue Poker, Vane-headed Wigeon, Attile Duck, Dun-Cur.

IN the Fens of Lincolnshire, Norfolk, and other eastern, as well as some of the southern counties, the Pochard is a common and well-known species during its winter migration, and is sent in great numbers to the London market (where it is sold under the name of the *Dun Bird*); but from its diving propensity, and the alarm it frequently creates, it is ever an unwelcome visitor to the decoys. In the northern parts of England and in Scotland it is comparatively of rare occurrence, either from the deficiency of some particular aquatic plants and grasses, or from these districts being out of its migratory line from the north-eastern parts of Europe. It is almost always seen upon the water, where it swims very rapidly, but apparently deep, arising from its flattened form. It dives well, and mostly for its food; remaining for a long time under the surface. It has also great swiftness on wing; and when in flocks, Pochards always fly in a very

Periodical
visitant.

compact body, and not in the triangular shape that we see in wild ducks, &c.—MONTAGU, in the Supplement to his Ornithological Dictionary, states, that vast quantities of these birds were formerly taken by nets, in a way similar to that in use for catching Woodcocks. Poles were erected at the avenues of the pools, or of the decoys, to which the birds resorted; and when great numbers had collected there, a net at the darkening was raised by pullies attached to the poles, beneath which had previously been dug a deep trench or pit. The Pochards (which, like many of the Anatidæ, feed at night-fall), on quitting the pool, flew into the net, and fluttering downwards, were received into the pit, from whence they were unable to rise. Twenty dozens, it is said, have thus been taken at one flight. This mode of capture, however, is not now resorted to, from the decreased numbers of water-fowl throughout the kingdom, in consequence of the general system of draining; and the birds sent to market now are either caught in the common decoy, or killed by the fowling-piece. The present is a widely-spread species, inhabiting during summer the north-eastern parts of Europe, Northern Asia, and North America. In winter its migrations sometimes extend tolerably far to the southward, as it is reported to have been met with in Egypt; and in America, during that period, it is plentiful in South Carolina and Louisiana. It is usually found in fresh-water lakes, rivers, and marshes; but occasionally on the sea-coast, near to the mouths of rivers.—It breeds amongst the aquatic herbage, and is stated to lay twelve or thirteen eggs, of a greenish-white. The Pochard soon becomes very tame when in confinement, and will thrive well upon grain, &c. if supplied with free access to water; being unable to exert itself much on land, from the position of its legs, and the great size of its feet. The trachea of the male is of nearly an equal diameter for upwards of two-thirds of its length; from thence it gradually contracts to its junction with the *orca*, or box; and is composed of *entire* cylindrical rings. The *orca* is not

Nest, &c.

much elevated, and forms an oblique line with the trachea. The tympanum, or drum, is about half an inch in diameter and the membrane of the exterior face is divided by a mesial bony arch. The flesh of this bird is tender and well-flavoured; unless killed in the neighbourhood of the sea, when it frequently acquires a rank and fishy taste.

PLATE 63. Fig. 1. represents the Male Pochard, of the natural size.

Bill bluish-grey, with the tip and base black. Tarsi and toes bluish-grey, with the membranes darker. Irides yellow. Head and neck deep orange-brown. Mantle, breast, and rump, black. Lower part of the back, scapulars, wing-coverts, thighs and flanks, greyish-white, with numerous zigzag lines of black. Belly and abdomen skim-milk-white, with pale ash-coloured waving lines. Quills and tail ash-grey.	General description. Male.
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The following is the description of a variety, killed upon the Northumberland coast, and now in my collection:—

Variety.

Head and neck bright reddish-orange, passing into reddish-white upon the crown. Breast very pale broccoli-brown, with a silky lustre. All the rest of the body greyish-white, with numerous very fine zigzag lines of a darker shade. Quills and tail plain greyish-white. Legs and toes ash-grey, with the membranes darker.

RED-CRESTED POCHARD.

FULIGULA RUFINA, Steph.

Fuligula rufina, *Shaw's Zool.* 12. 188. pl. 54.
Anas rufina, *Pall. Rel.* 2. 713.—*Gmel. Syst.* 1. 541. 118.—*Lath. Ind. Orn.* 2. 870. sp. 94.—*Yarrell*, in *Zool. Journ.* 2. 492.
Anas capite rufo major, *Raii Syn.* 140.—*Will. Orn.* 279.
Anas fistularis cristata, *Briss.* 6. 398. 22.
 Le Canard siffleur huppé, *Buff. Ois.* 9. 182.—*Id. Pl. Enl.* 928. male.—*Temm. Man. d'Ornith.* 2. 864.
 Kolbenente, *Bechst. Naturg. Deut.* 4. 1021.—*Meyer, Tasschenb.* 2. 518.
 Great Red-headed Duck, *Will. (Angl.)* 364.
 Red-crested Duck, *Lath. Syn.* 6. 544. 82.
 Red-crested Pochard, *Shaw's Zool.* 12. 188. pl. 54.

Rare visitant.

I have admitted this species into the list of our Fauna, as a rare visitant, on the authority of Mr YARRELL, who (in the second volume of the Zoological Journal) has described an immature male, that was shot near Boston in Lincolnshire in January 1826, on fresh-water, whilst feeding in company with some Wigeons. It is a native of the north-eastern parts of Europe, and of northern Asia; and, during its winter migration, is met with in Turkey, Hungary, and Austria, as well as on the shores of the Caspian Sea, occasionally extending its flights as far westward as the lakes of Switzerland and Italy. It exceeds the Red-headed Pochard in size, and is a handsome bird in plumage and general appearance. In the tracheal organization, the tube (according to TEMMINCK) undergoes a sudden contraction a little below the upper larynx, and again where it is joined to the labyrinth, which latter part is formed of the *orca* and *tympanum*, approaching in shape and size to those of the preceding species. The present bird inhabits fresh-water lakes and the rivers of the interior of its respective countries, and is rarely found on sea-coasts, living on aquatic plants, seeds, and molluscous animals. Its summer retreats, and the particulars of its nidification, remain in obscurity.

Food.

In the Adult Male, the bill and irides are vermillion-red; the nail of the former being white. Legs orange-red, with the membranes black. Head, cheeks, and upper part of the neck, bright chestnut-brown, with the feathers long and silky, forming a rounded kind of crest. Lower part of the neck, breast, belly, and abdomen, deep black. Back, wings, and tail, yellowish-brown. Flanks and sides, bend of the wings, basal part of the quills, speculum, and semilunar patch over each shoulder, white.

General
description.
Male.

The following is the description given by Mr YARRELL of the Young Male above referred to. Irises and bill bright vermillion, with the nail white. Sides of the head and neck chestnut, but lighter in colour at the top of the head, where the feathers are elongated, forming a crest. The nape and lower part of the neck dark brown. Upper part of the back and scapulars light brown. Wing-coverts ash-brown; over each shoulder is a white semi-lunar patch; speculum white; the shafts and a part of each wing primary white, the edges and tip dusky. Abdomen light brown. Under surface of the wings, sides, and flanks, white, tinged faintly with pink. Tail-feathers ash-brown. Upper and under tail-coverts dark brown. Legs and toes orange, with the webs black.

Young
Male.

The Female has the crown of the head, occiput, and nape of the neck, deep umber-brown, with the crest less conspicuous than in the male. Cheeks, throat, and sides of the neck, pale broccoli-brown. Back, wings, and tail, yellowish-brown, tinged with ochreous-yellow. No patch of white on the shoulders. Speculum greyish-white. Bill, legs, and toes, brown, tinged with tile-red.

Female.

NYROCA POCHARD.

FULIGULA NYROCA, Steph.

PLATE LXIII. FIG. 2.

- Fuligula Nyroca*, *Stephens*, Shaw's Zool. 12. 201. pl. 55.
Anas Nyroca, *Gmel. Syst.* 1. 542.—*Lath. Ind. Orn.* 2. 869. sp. 91.
Anas Africana, *Gmel. Syst.* 1. 522.—*Lath. Ind. Orn.* 2. 875. sp. 104.—
Bullock, in *Trans. Linn. Soc.* 11. 178.
Anas ferruginea, *Gmel. Syst.* 1. 528.—*Lath. Ind. Orn.* 2. 866. sp. 84.?
Nyroca leucophthalmos, *Flem. Br. Anim.* 1. 121. sp. 181.
La Sarcelle d'Egypte, *Buff. Ois.* 9. 273.—*Id. Pl. Enl.* 1000.
Canard à Iris blanc, ou *Nyroca*, *Temm. Man. d'Ornith.* 2. 876.
Die Weissaugige Ente, *Meyer, Tasschenb. Deut.* 2. 526.
Tufted Duck, *Lath. Syn.* 6. 541. 79. var. A.
African Teal, *Lath. Syn.* 6. 555.
Ferrugineous Duck, *Penn. Br. Zool.* 2. 601. No. 285. ?—*Mont. Supp. to Orn. Dict.*
Castaneous Duck, *Mont. App. to Sup. Ornith. Dict.*
Olive Tufted Duck, *Sow. Br. Miscell.* 1. pl. 21.
White Eye, *Flem. Br. Anim.* 1. 121. sp. 181.
Nyroca Pochard, *Shaw's Zool.* 12. 201. pl. 55.

As it still appears doubtful to what species the *Ferrugineous Duck* of PENNANT's British Zoology should be referred, I have quoted the synonym in the present instance, with a query as to its correctness. MONTAGU, in the Supplement to his Ornithological Dictionary, conceived PENNANT's bird to be the female of the one he described under the title of the *Ferrugineous Duck*, but which, according to his description, seems to have been a young male of the *Nyroca*. Afterwards, in his Appendix to the Supplement, upon an examination of the proper female of the *Nyroca*, he changed his opinion, being unable to reconcile it with the short account in PENNANT; and the subject of which, he there suggests, may possibly be the *Nyroca* in its young state, though he seems more inclined (from the figure in PENNANT's work) to suppose it to be actually a *female Wigeon* in the autumnal plumage. In Britain, the *Nyroca Pochard* is considered a scarce bird, and indeed, till within a few years past, was reckoned one of our rarest visitants. Of late, however, it

Rare visitant.

has been more frequently met with amongst the London poulterers, probably from an increased activity in the regular shooters of wild fowl, in their search after curious birds; and hardly a season now passes without producing specimens of this and other rare species of the *Anatidæ*, &c. It is a native of the same countries as the Red-breasted Pochard, inhabiting the eastern parts of Europe and Northern Asia, our island appearing to be the limit of its winter migration to the westward. Fresh-water lakes and rivers are its usual habitats, it being rarely found on the sea-coast.—Its food consists of insects, aquatic plants, seeds, &c. which are principally obtained by diving.—It breeds in the higher latitudes of northern Asia, in the reeds, &c. that fringe the edge of their lakes and rivers, making a nest of dried vegetable matter, and laying from eight to ten greenish-white eggs. The formation of the trachea, according to the descriptions of MONTAGU, TEMMINCK, and others, bears a strong resemblance to that of the Red-breasted Pochard, the tube being contracted a little below the glottis, and again near to the lower larynx, and the middle part swelling out to a much larger diameter. The tympanum differs, however, from that of the two preceding species, in having the side next to the trachea almost entirely osseous; the other side being covered by a membrane intersected or supported by a bony arch.

Food.

Nest, &c.

PLATE 63. Fig. 2. Represents the Adult Male, of the natural size.

Head, and upper part of the neck, deep orange-coloured brown. Collar (about three quarters of an inch broad) blackish-brown. Lower part of the neck and breast orange-brown. Belly white. Flanks yellowish-brown, with a tinge of grey. Abdomen and vent blackish-grey, finely mottled with yellowish-white. Back and scapulars blackish-brown, finely powdered with pale reddish-brown; the tertials glossed with olive-green. Speculum and outer webs of the secondary quills white.

General
description.
Male.

Upper tail-coverts black; the under ones pure white. Tips of the quills black, glossed with green. Bill and legs greyish-blue. Irides white.

Female.

Head and neck umber-brown, tinged with chestnut-brown, being brightest upon the cheeks and auriculars. Breast umber-brown, the feathers being margined with pale chestnut-brown. Flanks and sides yellowish-brown. Belly white. Vent brown, tinged with grey. Under tail-coverts white. Upper parts of the body deep glossy umber-brown, margined paler. Secondaries white, tipped with greenish-black, and forming a speculum. Greater quills light towards the base (particularly the fifth, sixth, and seventh), with their tips greenish-black, ridge of the wing white. Tail blackish-brown. Bill and legs blackish-grey. Of less size than the male bird.

SCAUP POCHARD.

FULIGULA MARILA, Steph.

PLATE LXVI. & LXVI*.

- Fuligula marila*, Steph. Shaw's Zool. 12. 198.
Nyroca marila, Flem. Br. Anim. 1. 122. sp. 183.
Anas marila, Linn. Syst. 1. 196. 8.—Gmel. Syst. 1. 509.—Lath. Ind. Orn. 2. 853. sp. 54.—Wils. Amer. Orn. 8. 87. pl. 69. f. 3. male.
Fuligula Gesneri, Raii Syn. 142. A. 6.—Will. Orn. 279.
Glaucium minus striatum, Briss. Orn. 6. 416. 26. A.
Le Milouinan, Buff. Ois. 9. 221.—Id. Pl. Enl. 1002.
Canard Milouinan, Temm. Man. d'Ornith. 2. 865.
Berg-Ente, Bechst. Naturg. Deut. 4. 1016.—Meyer, Tasschenb. Deut. 2. 524.
Scaup Duck, Penn. Br. Zool. 2. 275. pl. 100.—Arct. Zool. 2. 498.—Lath. Syn. 6. 500. 49.—Id. Sup. 2. 351.—Id. in Trans. Linn. Soc. 4. 128. pl. 14. f. 3. and 4. (trachea).—Lewin's Br. Birds, 7. pl. 250.—Mont. Orn. Dict. 1, and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 339.—Wils. Amer. Orn. 8. 87. pl. 69. f. 3.
Scaup Pochard, Shaw's Zool. 12. 198.
Anas fraenata, Mus. Carls. fas. 2. t. 38. female.
White-faced Duck, Sow. Brit. Miscel. 2. 5. t. 62.

PROVINCIAL—Covy Duck, Spoonbill Duck.

Periodical
visitant.

INSTEAD of the fresh-water lakes and rivers of the interior, which seem to be the appropriate haunts of the species

of this genus already described, the Scaup prefers the muddy shores of the ocean, or such parts only of rivers as admit the influence of the tide, where it can obtain a plentiful supply of its chief food, the smaller univalve and bivalve shell-fish. It is in this country a regular winter visitant, and, except in very mild seasons, is numerous distributed along such of our shores as suit its peculiar economy. It seldom arrives before the end of October, or the beginning of the month following, and its influx increases in proportion to the severity of the weather, fresh arrivals constantly occurring as the northern countries become frozen up. On the advance of spring, it again migrates towards the pole, advancing, for the purpose of breeding and passing the summer, into very high latitudes. It inhabits the arctic regions of Europe and Asia, and is also an abundant species in North America, being (according to WILSON) widely distributed along the coasts of the United States, during its winter migration, and frequenting the mouths of the great rivers. Hudson's and Baffin's Bays appear to be its principal summer retreats in that quarter of the world. The Scaup is an excellent diver, and obtains its food indeed by searching the mud beneath with its bill. It also swims well and swiftly, but its flattened shape (like the rest of this subfamily) makes it appear to be deeply immersed in the water. Its flight is strong, but not rapid; and the weight of its body, and concavity of its wings, compel it always to rise against the wind. It is a very wary bird, and, as WILSON correctly observes, appears to know the precise distance within which it is safe; from which cause, and the resistance given by its plumage, it is not easily killed. The most effectual way of getting within range, I have found to be by coming rapidly upon it with the wind, which the bird being obliged to face, in order to rise on wing, has frequently been brought so near as to enable me to obtain specimens. The Scaup is eaten by some people, but its flesh is rather rank and fishy, from the nature of its food. In confinement, it

Food.

soon becomes tame, and, if provided with water, thrives well upon grain, and other food eaten by poultry, and, under this regimen, its flesh is said to improve in flavour, and not to be inferior to that of the Wild Duck. It makes a hoarse grunting sort of noise, and has a singular habit of tossing up its head, and opening the bill, which, MONTAGU observes, is particularly the case during spring, whilst it is swimming and sporting on the water. The trachea of the adult male is of considerable diameter for three-fourths of its length, and is composed of semi-cylindrical rings, united by a membrane, which makes up the measure of the tube; and, about an inch above the lower larynx, where it is greatly contracted, these rings become entire. The labyrinthian part, as in the other species, consists of a bulging and strongly-ribbed *orca* or box, on the same line as the tracheal tube, and a *tympanum* or drum, rather narrower and higher than that of *Fuligula ferina*, and having the bony arch, which divides and supports the membrane on its outer face, somewhat different in proportions and form.

PLATE 66. represents the Adult Male of the natural size.

General
description.

Male.

Head and upper part of the neck blackish-green, with rich glossy reflections. Lower part of neck, breast, and rump deep black. Mantle and scapulars greyish-white, with fine distant zigzag black lines. Lesser wing coverts black, with transverse zigzag white lines. Secondary quills white, with black tips, forming a bar or speculum across the wings. Belly and flanks white. Abdomen rayed with lines of blackish-grey. Bill clear greyish-blue, broad and spatulate, with the nail black. Irides king's-yellow. Legs and toes bluish-grey, the joints and webs being darker.

PLATE 66*.

Female.

In the female (formerly supposed a distinct species, under the title of *Anas frenata*), the bill is of a deep-grey

colour, with the nail black. Around the base of the bill is a broad band of white. The rest of the head and the upper part of the neck are deep umber-brown, glossed on the sides with green. Lower part of the neck and breast having the basal part of the feathers broccoli-brown; the tips of the former being deeply margined with clear yellowish-brown, and those of the breast with white. Belly and abdomen white. Sides, flanks, and vent hair-brown, marbled with zigzag lines of white and darker brown. Mantle and scapulars brownish-black, finely mottled with zigzag lines of white. Tertiaries black, tinged with olive-green. Speculum as in the male bird. Quills and tail blackish-brown, with a glossy lustre. The young males resemble the adult females till after the first general moult. In the young females the colours are less distinct, and the back is nearly destitute of the zigzag black and white lines. Young.

TUFTED POCHARD.

FULIGULA CRISTATA, Steph.

PLATE LXV.

- Fuligula cristata*, Steph. Shaw's Zool. 12. 190.
Anas Fuligula, Linn. Syst. 1. 207. 45.—Gmel. Syst. 1. 543.—Lath. Ind. Orn. 2. 869. sp. 90.
Anas cristata, Raii Syn. 142. A.
Nyroca Fuligula, Flem. Br. Anim. 1. 122. sp. 184.
Glaucium minus, Briss. Orn. 6. 411. pl. 37. f. 1.
 Le Morillon et le Petit Morillon, Buff. Ois. 9. 227. and 231.—Id. Pl. Enl. 1001.
 Canard Morillon, Temm. Man. d'Ornith. 2. 873.
 Rheiber-ente, Bechst. Naturg. Deut. 4. 997.—Meyer, Tasschenb. Deut. 2. 519.
 Tufted Duck, Penn. Br. Zool. 2. 585. No. 274.—Arct. Zool. 2. 573. 9.—
Albin's Birds, 1. t. 95.—Will. (Angl.) 365. 73.—Lath. Syn. 6. 540. 79.—
Id. Sup. 2. 355.—*Id.* in Trans. Linn. Soc. 4. 117.—Lewin's Br. Birds, 7. 257.—Mont. Ornith. Dict. 1. and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 370.
Anas Scandiacæ, Gmel. Syst. 1. 520.—Lath. Ind. Orn. 2. 859. sp. 68.
 Morillon, Briss. Orn. 406. i. 36. f. 1. and 2 ?
 Lapmark Duck, Penn. Arct. Zool. 2. 576. M.—Lath. Syn. 6. 515. 60. } Young.

Periodical
visitant.

THIS short compact bird is a regular winter visitant, and although not numerous, is very generally distributed throughout the British Islands, frequenting not only the lakes and rivers far inland, but also the sea-coasts; and in the latter case, more particularly inlets formed at the mouths of rivulets, where the sands are not only flat, but indented with pools left by the receding tide. It is generally seen in pairs, and rarely more than three or four couple associate together. It is so prompt in diving, as to be difficult to shoot on the water; and the same propensity facilitates its escape from the decoy, as, instead of rising and flying forwards when within the tunnel, it immediately, by diving, returns to the open pool. Its flesh is tender and well flavoured, and in some parts is sold in the market under the name of the *Black Wigeon*. Its form is typical; the bill displaying the breadth and shape of that of the Scaup, which bird it also resembles in peculiarity of figure. It is a native of the arctic regions of Europe and Asia, but does not appear to inhabit North America, the species described as such by WILSON (and quoted from him by TEMMINCK, STEPHENS, and others), being perfectly distinct and intermediate in size between this bird and the Scaup. The error was first discovered by Monsieur CHARLES BUONAPARTE, Prince of Musignano, who has given to the American species the name of *Fuligula rufitorques*. The Tufted Pochard breeds in high latitudes, though TEMMINCK assures us that a few occasionally remain through that season in more temperate climates; but I have never been able to discover that it breeds in this country. On continental Europe it is widely and abundantly spread during its winter migration, being found throughout Holland, France, Germany, Italy, and other southern states. The labyrinthian portion of the trachea partakes of those both of the Scaup and Red-headed Pochards; the tympanum being very similar in shape and detail to that of the latter, whilst the orca (though smaller) very closely resembles in form that of the Scaup. The tracheal

tube is of considerable and equal diameter throughout its length; in which respect it differs from both of them.—The food of the present species consists of water insects, vermes, and mollusca, obtained by diving; and MONTAGU mentions having found the craws of some specimens filled with the *Helix putris* in the month of December, at which period these and other testaceous animals have retreated to their hybernacula beneath the mud, in the deeper parts of the water. These birds begin to leave us early in March, and by the middle of April the whole have departed for more northern latitudes. According to Dr FLEMING, they only appear in the Orkney and Shetland Islands after stormy weather; their proper line of migration seeming to be more to the eastward.

PLATE 65. represents the Adult Male of the natural size.

Head and upper part of the neck black, glossed with rich purple. Crest the same, composed of long silky narrow decumbent feathers. Lower part of the neck and breast black. Belly, abdomen, sides, and flanks pure white. Mantle and scapulars brownish-black, with very minute specks of reddish-white. Tertiaries glossy greenish-black. Secondaries white, tipped with greenish-black, forming a bar or speculum across the wings when closed. Quills pale hair-brown, with the outer webs and tips black. Lower part of the back, under tail-coverts, and tail, black. Bill, from the angle of the forehead to the tip, one inch and a-half in length; breadth seven-eighths of an inch; deep bluish-grey, with a small part of the tip and the nail black. Legs and toes greyish-black, with the membranes still darker.

Food.

General
description.
Male.

Head and neck deep umber-brown; with a crest of the same colour, about an inch long. Breast and flanks varied with umber-brown and yellowish-brown. Belly and abdomen white, with faint undulations of pale brown. Vent and under tail-coverts barred with white and pale umber brown. Upper parts of the body

Female.

blackish-brown ; the tips of the feathers upon the mantle and scapulars being paler. Speculum as in the male bird. Bill and legs blackish-grey.

Young. The Young, previous to the first moult, have no appearance of the crest ; and the base of the bill and region of the eyes are varied with white feathers. The upper part of the plumage is more deeply bordered with pale brown. The speculum is less distinct, and of a greyish-white. After the moult the males become much darker, lose the white feathers about the base of the bill, and display the crest, in which state the bird approaches very closely in appearance to the *Anas Scandiacæ* of LATHAM.

WESTERN POCHARD.

FULIGULA DISPAR, Steph.

PLATE LXVI**.

Fuligula Dispar, Steph. Shaw's Zool. 12. 206.—*Jardine and Selby's Illus. Orn.*

Anas Dispar, Gmel. Syst. 1. 535.—*Lath. Ind. Orn.* 2. 866. sp. 83.

Anas Stelleri, Pall. Spic. 6. 35. t. 5.—*Gmel. Syst.* 1. 518.

Western Duck, Penn. Arct. Zool. 2. 497. pl. 23.—*Lath. Syn.* 6. 532.—*Id.* Sup. 275.

Western Pochard, Shaw's Zool. 12. 206.

Very rare
visitant. A SPECIMEN of this very rare Duck was obtained in February 1830, at Caisted, near Yarmouth, in Norfolk ; and, as a curious coincidence, another was taken about the same time in Denmark. These two are the only instances on record of the capture of this species in Europe, as it remains unnoticed by all our own writers as a British visitant, and is not enumerated by TEMMINCK, or other continental authors, in the list of European birds. The first mentioned specimen is now in the possession of the Rev. GEORGE STEWARD, Rector of Caisted, and it is through the kind attention of Mr DAWSON TURNER of Yarmouth (who procured for me the loan of a correct drawing), that I have been enabled to pre-

sent to the public the figure of so great a rarity. As I have never seen the bird myself, I can only judge of the station it holds among the *Anatidæ*, from the characters displayed in the drawing, being at the same time convinced of its faithfulness to the original; and I have little hesitation in placing this bird in the subfamily *Fuligulina*, and (for the present) in the genus *Fuligula*, to which it has also been previously assigned by Mr STEPHENS. From the disposition of the colours of its plumage, and the curved shape of the tertials, I should suppose it, however, to be an aberrant form in this genus, connecting it probably with the genus *Somateria*, or with that immediately ensuing (*Harelda*). But as a narrow inspection of the bird itself, and a correct knowledge of its general economy, are necessary to establish its true affinities, I only venture the above as a conjecture founded upon the drawing sent to me. This bird is a native of Northern Asia, inhabiting Siberia and the shores of Kamtschatka, and is also said to be found upon the north-western coasts of America. It breeds (according to the authors who have described it) among rocks and precipices, which, if correct, implies a departure from the habits of the more typical Pochards, and it is further mentioned as associating in large flocks.

The following is the description of its plumage, as taken from the original drawing, and compared with the accounts of other authors:—

<p>Bill and legs black. Irides pale brown. Upon the forehead is a band of pistachio-green, and upon the nape of the neck is another of the same colour, passing backwards into black, and forming a short occipital crest. Crown of the head, cheeks, and upper part of the neck white. Chin, throat, and an irregular spot behind the eyes, black. Middle part of the neck surrounded by a collar of black, which is continued down the back to the tail. Lower portion of the neck, part of the scapulars, and the lesser wing-coverts white. Breast, belly,</p>	<p>General descrip- tion.</p>
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and abdomen chestnut-brown, becoming darker as it approaches to the vent, which latter, and the under tail-coverts, are black. Tertiaries long and curved; the inner web narrow, and, with the shaft, white; the outer web broad and black. Quills and tail brownish-black; the latter more *elongated* and *pointed* than in the rest of this genus.

GENUS HARELDA, RAY. HARELD.

GENERIC CHARACTERS.

BILL much shorter than the head, high at the base, narrow, suddenly contracted towards the tip; nail of the upper mandible arched; both mandibles laminato-dentato, with the laminæ prominent, tooth-like, and widely set. Nostrils near the base of the bill, lateral, linear, oblong.

Wings of mean length, with the first and second quill feathers equal.

Tail wedge-shaped, the feathers sharp pointed. In the male bird the two middle feathers elongated, narrow, and canaliculated.

Legs short. Feet four-toed, webbed; the outer toe nearly as long as the middle one. Hind toe with a large lobated membrane.

Of this genus only one species has hitherto been discovered, viz. the *Long-tailed Duck* of British authors. In its affinities it seems nearly allied to the Garrots (genus *Clangula*), but is still separated from them by characters of much importance, the bill being more contracted towards the tip, and not being so high at the base, near which also the nostrils are situated. The tail is also more graduated and acute, and remarkable in the males for the elongation of the two central feathers. The anatomy of the tracheæ separates it, too, from both the Garrots and the Pochards. This species lives on sea-shores, and is a native of the Arctic regions.

LONG-TAILED HARELD.

HARELDA GLACIALIS, Leach.

PLATE LXI.

Harelda glacialis, Steph. Shaw's Zool. 12. 175. pl. 58.*Anas glacialis*, Linn. Syst. 1. 203. 20.—Gmel. Syst. 1. 529.—Lath. Ind.

Orn. 2. 864. sp. 82.—Wils. Amer. Orn. 8. 98. pl. 70. f. 1. and 2.

Anas longicauda, ex Insula novæ terræ, Briss. Orn. 6. 382.

Canard à longue queue, Buff. Ois. 9. 202.

Canard de Miclon, Buff. Pl. Enl. 1008.—Temm. Man. d'Orn. 2. 860.

Eisente Winter Ente.—Bechst. Naturg. Deut. 4. 1124.—Meyer. Tassenb. Deut. 2. 511. } Winter plumage.

Swallow-tailed Shieldrake, Will. (Angl.) 364.

Long-tailed Duck, Penn. Br. Zool. 2. 599. No. 283.—Edward's Glean.

t. 288.—Lath. Syn. 6. 528.—Lewin's Br. Birds, 7. 262.—Mont. Ornith.

Dict. and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 359. } Summer plumage.

Anas hyemalis, Linn. Syst. 202. 29.—Gmel. Syst. 529. sp. 29.*Anas caudacuta* Harelda, Raii, Syn. 145. 14.—Will. 290.*Anas longicauda* Islandica, Briss. Orn. 7. 399. No. 17.

Long-tailed Duck, Edward, t. 156.—Lath. Syn. 6. 529. 73. } Young.

Anas glacialis, var. γ . Lath. Ind. Orn. 2. 865.—Penn. Arct. Zool. 2. App. 76.*Querquedula ferroensis*, Briss. Orn. 6. 466. t. 40. f. 2.

La Sarcelle de Feroé, Buff. Ois. 9. 278.—Id. Pl. Enl. 999.

PROVINCIAL.—Calvo, Coal-and-candle-light, Sharp-tailed Duck, Long-tailed Shieldrake.

LIKE most of the present subfamily, the Long-tailed Hareld is an inhabitant of the Arctic Seas, and is one of the few species whose summer migration extends to the highest latitudes yet visited, as we find it mentioned in all lists of birds furnished by the recent voyages of discovery to those desolate and ice-bound regions, where it abides whilst any portion of the sea remains unfrozen, and only migrates to the southward when compelled by the consequent failure of food in its favourite resort. Hence, it is amongst the number of our winter visitants, and, as might naturally be expected, is most numerous and best known towards the northern extremity of the kingdom. In the Orkney and Shetland Isles it generally appears in considerable flocks late in October or about the beginning of November, and continues to haunt

Periodical
visitant.

the bays and immediate vicinity of these islands till the month of April. A few may occasionally extend their flight, stretching as far even as the coast of Northumberland, but this would seem to be the extreme limit of their equatorial movement, as the capture of an individual to the south of this line is of very rare occurrence. This is a pelagic species, and is seldom seen in fresh water; its habits in many respects resembling those of the Eiders and Scoters. It dives well, and thus obtains on our shores the greater part of its food, viz. testaceous mollusca and crustacea. Its flight is strong and rapid, though seldom at any height, or to any great distance at once. The singularity of its cry has caused it, in the countries it frequents, to receive some peculiar names, indicative of the sounds emitted; thus, in the north of England and Scotland, it is known by the whimsical appellative *Coal-and-candle-light*; in the United States, WILSON informs us, that it goes by the title of *South Southerly*; in Kamtschatka, the natives call it *A-an-gitche*; and the North American Indians *Caccawee*, and *Ha-ha-way*; all which conjunctive terms are, to a certain degree, expressive of its note. When congregated together, this cry is often uttered, and particularly towards the evening, at which time it may be heard to a very great distance. This bird inhabits the whole of the Arctic regions, being equally abundant both in the parts belonging to North America, and in those situated on the Asiatic and European continents.—It breeds on the sea-coasts, and adjoining islands, making a nest of grass, or such other soft materials, as the situation supplies; and this, as incubation proceeds, it lines with the down plucked from its own body, which, for fineness and elasticity, is not inferior to that of the Eiders. Its eggs are from six to ten, of a bluish or skim-milk white, and nearly equal in size to those of the Common Wild Duck. The formation of the trachea of this species is very curious, and differs in some points from that of any of the nearly allied genera. Immediately beneath the upper larynx it is slightly dilated, and the rings rather

flattened, but it soon becomes narrower, and from thence to about an inch above the labyrinth, is round and of equal diameter. Its rings, then, are suddenly enlarged, but do not again retain their perfect form; the side next to the breast being flattened and covered with a thin semi-transparent membrane, divided into window-like portions by four fine bony septa, or bars. The labyrinth consists of a large solid bony orca, and a tympanum, whose transverse diameter is much the longest. The above conformation was supposed to produce the peculiar cry of this species, but without foundation, it being well ascertained that the females, which are without the tracheal enlargements, are as loud and singular in tone as the male birds. The flesh of the Hareld is hard and unpalatable, having a rank and fishy flavour from the nature of its food.

PLATE 61. Fig. 1. Represents the Male in the winter plumage and of the natural size.

Bill black, with a transverse mesial band of deep lake-red, and measuring nearly one inch and one-eighth from the angle of the forehead to the tip. Legs and toes yellowish-grey, with the membranes darker. Irides king's-yellow. Crown of the head cream-white, the feathers being long, with open hair-like barbules. The nape, lower and fore part of the neck, white. Cheeks ash-grey. Upon each side of the neck is a large oval patch, the upper part of which is blackish-brown, and the lower part yellowish-brown. Breast, belly, mantle, lower part of the back, wing-coverts, and upper tail-coverts pitch-black. Scapulars skim-milk white, long, and acuminate. Abdomen and vent greyish-white. The two middle tail-feathers upwards of nine inches in length, narrow, and canaliculated beneath; these, and the next feather on each side, pitch-black, the next being hair-brown, deeply margined with white, and the outermost feathers entirely white.

General
description.
Male.

In the summer the greater part of the head and neck, and the whole of the upper and under plumage, as far as the abdomen, are brownish-black. The scapulars are blackish-brown, bordered with orange-coloured brown. Cheeks ash-grey. Abdomen and vent white.

Fig. 2. The Female.

Female. Crown of the head, patch behind the ears, chin, and throat, blackish (inclining to broccoli-)brown. Face, neck, and collar, greyish-white. Breast pale liver-brown, with the centers of the feathers darker. Upper parts blackish-brown, with the scapulars and wing-coverts margined with yellowish-brown and greyish-white. Tail broccoli-brown, margined with white. Lower parts white. Bill grey, with an indistinct yellow band. Legs and toes grey, with the membranes darker.

GENUS CLANGULA, *FLEM.* GARROT.

GENERIC CHARACTERS.

BILL shorter than the head, elevated at the base, tapering towards the point; nail of mean size, and scarcely projecting beyond the edge of the mandible. Both mandibles laminatodentate, with the laminæ tooth-like and widely set, and concealed by the projecting margins of the bill.

Nostrils lateral, oval, pierced in the anterior and lower part of the membrane. Head large and high.

Wings of mean length, acute. Tail rather long, graduated, with the feathers semi-acute. Legs short. Toes long, webbed, the middle and outer ones nearly equal in length. Hind toe lobated.

In this genus an evident approach to the succeeding subfamily *Mergina*, is perceptible, not only in the tapering, and

indeed general modification of the bill, but in the external bodily contour, in the prevailing colours and disposition of the plumage, and in the length and form of the tail. In the structure of the trachea also (which differs from that of any of the preceding genera), an approximation is made towards the corresponding parts of some of the Mergansers. The Garrots are natives of the Arctic Regions, and are more commonly seen upon rivers and fresh water lakes, than on the shores of the ocean. Their food consists of aquatic insects, the fry of fish, mollusca, crustacea, &c. They fly both with much strength and swiftness, and often at a considerable height; and a loud whistling sound is produced by the rapid motion of their wings.

COMMON GOLDEN-EYE GARROT.

CLANGULA VULGARIS, Leach.

PLATE LXII.

Clangula vulgaris, *Flem. Br. Anim.* 1. 120. sp. 178.—*Faun. Amer. Boreal.* 2. 456. No. 215.

Clangula chrysophthalmos, *Steph. Shaw's Zool.* 12. 182. pl. 56.

Anas Clangula, *Linn. Syst.* 1. 201. 23.—*Gmel. Syst.* 1. 523.—*Lath. Ind.*

Orn. 2. 867. sp. 87.—*Wils. Amer. Ornith.* 8. 64. pl. 67. fig. 6.

Le Garrot, *Buff. Ois.* 9. 222.—*Id. Pl. Enl.* 802.—*Cuv. Reg. Anim.* 1. 534.

Canard Garrot, *Temm. Man. d'Ornith.* 870.

Die Schelle-Ente, *Bechst. Naturg. Deut.* 4. 985.—*Meyer, Tasschenb.* 2. 521.

Golden-Eye Duck, *Penn. Br. Zool.* 2. 587. No. 276.—*Arct. Zool.* 2. No.

486.—*Albin's Birds*, 1. t. 96.—*Will. (Angl.)* 368. t. 73.—*Levin's Br.*

Birds, 7. pl. 255.—*Lath. Syn.* 6. 535. 76.—*Id. in Trans. Linn. Soc.* 4.

118. pl. 15. fig. 1. 2. (trachea).—*Mont. Ornith. Dict. and Sup.*—*Bewick's*

Br. Birds, ed. 1826, p. t. 365.

Anas Glaucion, *Linn. Syst.* 1. 401. 26.—*Gmel. Syst.* 1. 525.—*Lath. Ind.*

Ornith. 2. 868. sp. 88.

Morillon, *Lath. Syn.* 6. 537. 77.—*Will. (Angl.)* 367.—*Bewick's Br. Birds*,

ed. 1826, p. 369, &c.

} Female and
Young Males

PROVINCIAL—Pied Wigeon, Gowdy-Duck.

WHEN at maturity, and in perfect plumage, the male of the Golden-Eye is a handsome bird, and conspicuous from

Periodical
visitant.

the piebald disposition of his colours. In this state, however, he is in this country rather of rare occurrence; the great body of those that visit our coasts being either females or young males in different stages of advancement, both of which are generally known and distinguished by the name of *Morillons*. The Golden-Eye is a winter visitant, but its numbers are regulated by the severity or mildness of the season, being always most abundant under the former state of weather. This remark may be applied to all the arctic *Anatida*, their migration southward being gradually extended in consequence of their being frozen out of food in the districts they habitually frequent. This species is usually seen in small flocks or societies upon our lakes and larger rivers, and occasionally upon the coast, near to the mouths of streams. It flies with great strength and rapidity, giving intimation of its approach by the whistling noise of its wings, as it passes through the air. It is remarkably active on the water, swimming and diving with equal facility; by the latter mode, indeed, it obtains a great proportion of its food, viz. aquatic insects, worms, molluscous animals, fry of fish, &c. From the quickness with which it plunges, and the distance to which it dives, it is very difficult to kill when afloat, and the introduction of the detonating lock has alone given the water-fowl shooter any chance against it, as it constantly dived at the flash of the pan, and was fairly beneath the surface, before the shot could reach the place of aim. On this account the present and other species of *Clangula* have obtained among the natives in America the name of *Conjuring* or *Spirit Ducks*. Upon the land it proceeds in a shuffling ungainly manner, from the backward position of the legs, and the great size of its feet. It is a native of the Arctic Regions, and is widely spread over those of the new, as well as of the old continent. In summer it retires to high northern latitudes, and breeds upon the banks of the lakes and rivers of the interior. Its nest is made in the rushes or other coarse herbage, or sometimes (where suitable

Food.

Nest, &c.

in point of locality) in the hollow of a tree, in the manner of the Wood Duck (*Dendronessa sponsa*.) The eggs are stated to be from twelve to fourteen, and of a pure white. The flesh of the Golden-Eye, although inferior in flavour to that of many other Ducks, is tender and palatable, especially when deprived of its thick and oily skin; and in the market is indiscriminately sold for Wigeon. The trachea of the male bird is of singular conformation*, and differs from that of all the preceding species. In addition to the labyrinthic part (which is very large, consisting of an *orca* and *tympanum*, placed *transversely* to the trachea, but of which it is impossible to convey an accurate idea by words), an extraordinary enlargement takes place about the middle of the tube itself. This ventricose part, observes MONTAGU, consists of the same cartilaginous rings as the rest of the wind-pipe, and is, in fact, only a great enlargement of the same structure, being at least four times the diameter of any other part, and upwards of three inches in length, when fully extended. It is so formed, by the inequality of its cartilaginous annulations, and the intermediate membranes, as to be not only capable of contracting to little more than an inch in length, but also of compression, its under part being, when in the contracted state, considerably flattened.

PLATE 62. Represents the adult Male (the *Golden-Eye*) and the Female (being the *Morillon* of some authors.)

Spot behind the base of the upper mandible pure white. Forehead and chin brownish-black. The rest of the head, and the upper part of the neck, glossy duck-green, in some lights shewing a rich purple reflection. Lower part of the neck, breast, intermediate wing-coverts, the seven posterior secondaries, belly, and abdo-

General
description.
Male.

* For accurate figures of the tracheæ of the Anatidæ, &c. I refer my readers to Dr LATHAM's Essay, in the fourth volume of the Linnean Transactions, and to the admirable one of Mr YARRELL upon the same subject, published in the fifteenth volume of that work.

men, pure white (but in some the breast is tinged with sienna-yellow.) The long flank feathers having the outer part of their inner webs velvet-black. The vent, and behind the thighs, broccoli-brown. Exterior scapulars white, and having their outer webs margined with black. The rest of the scapulars, the long tertials, the mantle, and back, deep glossy black. Tail rather long, formed of sixteen feathers, broccoli-brown. Bill black, one inch and three-eighths long, from the angle of the forehead to the tip, with the nostrils placed nearer to the tip than the base. Legs and toes orange. Irides golden or gamboge yellow.

Female. Head, and upper part of the neck, umber-brown. Lower part of the neck or collar greyish-white. Upper part of the breast deep ash-grey, the feathers being margined with greyish-white. Dorsal plumage pitch- (or brownish-) black, the feathers of the mantle and outer scapulars being deeply margined with ash-grey. The intermediate wing-coverts brownish-black, blotched with greyish-white. Secondaries as in the male bird. Flanks, and behind the thighs, clove-brown, margined paler. The rest of the lower parts white. Bill having the tip saffron-yellow. Legs dirty orange, with the webs darker.

Young. The young males strongly resemble the females for the first year, but are larger, and may always be ascertained by the trachea. After the second moult the spot behind the bill appears, composed of black and white feathers, and the head and neck acquire the glossy green colour. The back also becomes darker, and there are indications of the exterior black and white scapulars. After the third moult the bird is matured.

HARLEQUIN GARROT.

CLANGULA HISTRIONICA, Leach.

PLATE LX.

Clangula histrionica, *Flem. Br. Anim.* 1. 120. sp. 179.—*Shaw's Zool.* 12.180. pl. 57.—*Faun. Amer. Boreal.* 2. 459. No. 218.Canard à Collier, ou Histrien, *Temm. Man. d'Ornith.* 2. 878.Canard Arlequin, *Cuv. Reg. Anim.* 1. 533.*Anas histrionica*, *Linn. Syst.* 1. 204. 35.—*Gmel. Syst.* 1. 534.—*Lath. Ind.*
Orn. 2. 849. sp. 45.*Anas torquata*, *Briss. Orn.* 6. 362. 14.Le Canard à Collier de Terre Neuve, *Buff. Ois.* 9. 250.—*Id. Pl. Enl.* 798.Die Kragen-Ente, *Bechst. Naturg. Deut.* 4. 1037.—*Meyer, Tasschenb.*
530.Dusky and Spotted Duck, *Edward*, pl. 99.Harlequin Duck, *Penn. Arct. Zool.* 2. 490.—*Lath. Syn.* 6. 485. 38.—*Wils. Amer. Ornith.* 8. 153. pl. 72. fig. 4.—*Mont. Ornith. Dict.* 1.—*Sowerby, Br. Misc. pl.* 6.*Anas minuta*, *Linn. Syst.* 1. 204. 36.—*Gmel. Syst.* 1. 534.*Querquedula freti Hudsonis*, *Briss. Orn.* 6. 469. 41.^rLa Sarcelle brune et blanche, *Buff. Ois.* 9. 287.—*Id. Pl. Enl.* 799.Little Brown and White Duck, *Edward*, t. 157.

} Male.

THE Harlequin Garrot (so named from the singular marking of the male bird's plumage) is one of our rarest winter visitants, the instances of its capture being confined to three or four, all of which occurred in the northern parts of Scotland. It inhabits the northern regions of both the old and new continents, and is a well-known species in the north-eastern parts of Europe. In Siberia, Kamtschatka, and other countries of Asia it is equally abundant. In America, during its summer migration, it is met with in the interior of the country round Hudson's Bay, and also in the vicinity of the Rocky Mountains, where Dr RICHARDSON describes it as haunting the eddies under cascades, and amongst rapid streams. It is a bird of shy disposition and very vigilant; and (contrary to the habit of the other Garrots) takes wing at once when disturbed, flying swiftly, and at a great

elevation, and, like the Golden-Eye, producing a loud whistling sound by the action of its wings.—It obtains its food principally by diving, searching the bottoms of the streams for the larvæ of insects, the roe of fish, and testaceous molluscæ. Its nest is said to be made upon the banks of rivulets, under the cover of low bushes or tall herbage, and its eggs, from ten to twelve in number, are stated to be of a pure white, and not much larger than those of a pigeon. During its summer migration it is found upon the coast, and frequently in deep water, at a considerable distance from land. It is to be regretted, that no author has described the anatomy of the trachea, as it so essentially contributes to establish the affinities of the species. In the form of the bill a slight difference is observable, as compared with that of the Golden-Eye, and the nostrils are placed nearer to the base, shewing its connexion with the genus *Havelda*.

PLATE 60. Represents the Male and Female of the natural size.

General description.

Male.

Bill bluish-black. Legs blackish-brown. From the base of the bill, reaching nearly to the eye, is a patch of white, which forms a streak from thence to the nape of the neck, terminating in pale reddish-brown. Medial band from the bill, to the hind part of the head, velvet-black. Nape of the neck, and sides of the throat, rich lavender-purple. Auricular patch, streak on the sides of the neck, lower neck-collar, crescent-shaped band on the shoulder, and longitudinal streaks upon the scapulars and tertials, pure white. Mantle, wings, and tail, liver-brown, tinged with lavender-purple. Lower part of the back and tail-coverts velvet-black. Breast and belly liver-brown. Sides and flanks orange-brown. Vent brownish-black. Speculum black, glossed with indigo-blue.

Female.

Upper parts of the body liver-brown, with the margins of the feathers paler. Upper part of the breast, and the

sides yellowish-brown, margined with brownish-grey. Flanks umber-brown. Abdomen and belly greyish-white, undulated with clove-brown. Spot between the bill and eye, and upon the ear-coverts, white. Chin and throat greyish-white.

The young males resemble in a great measure the females for the first year, and do not acquire the white collar till after the second moult.

SUBFAMILY MERGINA.

BILL narrow, cylindrical, with the margins toothed ; and the tip armed with a hooked nail.

GENUS *MERGUS*, LINN. *MERGANSER*.

GENERIC CHARACTERS.

BILL as long as, or longer than, the head, narrow, and almost cylindrical ; high at the base ; tapering towards the point, which is armed with a strong hooked *dertrum*, or nail ; edges of both mandibles toothed or serrated, with the serratures generally pointing backwards. Chin-angle very long, reaching nearly to the nail of the under mandible. Nostrils near the middle of the bill lateral, pervious, oblong, longitudinally cleft in the membrane. Tongue long, pointed, ciliated.

Wings of mean length, acute ; the first and second quills nearly equal in length. Tail graduated or rounded ; rather long.

Legs placed far backward, short. Feet large ; of four toes, three before and one behind ; the front toes webbed. Outer and middle toes of equal length, and longer than the

tarsus. Hind toe reaching to the ground, and furnished with a large lobated membrane.

General form rather long, much depressed or flattened. Head more or less crested.

The members of this genus are distinguished from the preceding subfamilies of the *Anatidæ*, by the narrowness of the bill, as compared with its length, and by the structure of its laminated edges, which assume the form of distinct conical teeth, generally pointing backwards, instead of the broad transverse plates or laminæ of the other groups. The food of the typical species principally consists of fish, for securing which this modification of bill is admirably adapted. The members of this genus swim well, but, from the weight and flattened form of their bodies, appear deeply immersed in the water; the head, neck, and back being only visible. They are also excellent divers, moving or rather flying beneath the surface with great rapidity, and to a great distance at a time, and by these submarine flights they capture their finny prey. Their flight is strong and swift, and they have great endurance on wing; but, from the shortness and backward position of the legs, are awkward upon land. They are natives of the colder climates, and are found, during the summer (or breeding season), in very high latitudes. The males, after the sexual connexion, are subject to a partial change in the colours of their plumage, similar to that which takes place in many species of the subfamily *Anatina*. The labyrinthic part of the trachea (only in the male bird) is very large and complicated, and the tube itself varies in form and in the number of its enlargements, according to the species. The young males bear a strong resemblance to the females, till after the second moult.

GOOSANDER.

MERGUS MERGANSER, Linn.

PLATE LVII.

Mergus Merganser, Linn. Syst. 1. 208. 2.—*Gmel. Syst.* 1. 544.—*Raii Syn.* 134. A. 1.—*Will.* 253. t. 64.—*Briss. Orn.* 6. 231. t. 32.—*Lath. Ind. Orn.* 2. 828. sp. 1.—*Wils. Amer. Ornith.* 8. 70. pl. 68. f. 1. and 2.—*Flem. Br. Anim.* 1. 128. sp. 200.—*Faun. Amer. Boreal.* 2. 460. No. 220.

Merganser Raii, Steph. Shaw's Zool. 12. 161. pl. 53.

Le Harle, Buff. Ois. 8. 267. sp. 23.—*Id. Pl. Enl.* 951.

Grand Harle, Temm. Man. d'Ornith. 2. 881.

Taucher-gans, Bechst. Naturg. Deut. 4. 781.—*Meyer, Tasschenb.* 2. 565.

Goosander, or Merganser, Penn. Br. Zool. 2. 556. No. 260.—*Arct. Zool.*

2. No. 465.—*Will. (Ang.)* 335. t. 64.—*Lath. Syn.* 6. 418. 1.—*Id. Sup.* 2.

336.—*Lewin's Birds*, 6. pl. 2. 31.—*Mont. Orn. Dict.* 1. and Sup.—*Bewick's*

Br. Birds, ed. 1826. p. t. 250.—*Wils. Amer. Orn.* 8. 70. pl. 68. f. 1. and

2.—*Low's Faun. Orcad.* p. 131.—*Rennie's Mont. Orn. Dict.* 217.

Mergus castor, Linn. Syst. 1. 209. 4.—*Gmel. Syst.* 1. 545. B.—*Lath. Ind.*

Orn. 2. 829. sp. 2.

Mergus rubricapillus, Gmel. Syst. 1. 545.

Mergus serratus longiroster, Raii Syn. 134. A. 2.—*Will.* 253. t. 64.

Merganser cinereus, Briss. Orn. 6. 254. 7. t. 25.

Le Harle Femelle, Buff. Ois. 8. 236.—*Id. Pl. Enl.* 953.

Dundiver, or Sparling Fowl, 2. 557. No. 260. pl. 92. f. 2.—*Arct. Zool.*

2. 465.—*Albin.* 1. t. 87.—*Lath. Syn.* 6. 240. 221. 4.—*Id. Sup.* 270.—

Lewin's Br. Birds, pl. 232.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br.*

Birds, ed. 1826, p. t. 253.

Female and
Young Males.

PROVINCIAL—Saw-Bill, Harle, Earl-Duck, Jack-Saw.

THIS large and handsome species is one of our rarer *English* visitants, and seldom makes its appearance in the more southern districts of the country, except in winters attended by long continued frost; but in the northern parts of Scotland, and in the Orkneys and other Scottish islands, it is a permanent resident; finding subsistence throughout the year either in the fresh-water lakes of the interior, or (when these are frozen) in the deep indentations of the coast, formed by the saline lochs, so numerous in that part of the kingdom. It is widely distributed throughout the arctic regions of both the ancient and new worlds. In Europe, during its equatorial migration, it visits France, Holland, Germany,

and even more southern countries ; and WILSON mentions it as a well known winter visitant upon the coasts, lakes, and rivers of the United States. During the summer the great body of these birds retires to high latitudes, for the purpose of reproduction ; and at that time they are found in Iceland, Greenland, and other northern parts of Europe. In Asia, they visit Siberia, Kamtschatka, &c., and in America, during the above period, they are distributed through the fur coun-

Nest, &c. tries of that vast continent.—The nest is constructed (near to the edge of the water) of a mass of grass, roots, and other materials, mixed and lined with down. It is placed sometimes among stones or other *debris*, and sometimes in the long grass, or under the cover of bushes, and (when the locality affords them) in the stumps or hollows of decayed trees. The eggs are from twelve to fourteen in number, of a cream-yellow colour ; and their form is a long oval, both ends being equally obtuse.

The Goosander, except when on wing, is almost always seen upon the water, being unable to make any great progress on land, in consequence of the backward position of the legs, and the slight degree of freedom that the tibiae possess from their situation within the integuments of the abdomen. Its activity, however, in the former element, makes ample amends for this deficiency. In swimming, the body, from its broad and flattened shape, is deeply sunk in the water, having the head, neck, and back only visible. It is an excellent diver, with the power of remaining for a long time submerged, and making its way with great rapidity beneath the surface.—In this manner its food is obtained, consisting entirely of fish ; and which, when once seized, are securely held in its serrated bill. It rises with difficulty, or at least with much apparent exertion, from the surface of the water, but when once fairly on wing, its flight is not only swift, but can be sustained for a considerable time. By earlier writers, the females and young males (which resemble that sex for upwards of a year) were considered and described as

a distinct species, under the title of *Mergus castor*; even our acute countryman MONTAGU seems to have adhered to this opinion, and was unwilling to admit the conclusive deductions of Mr SIMMONDS, drawn from minute anatomical examination, which clearly proved their identity. This is now, however, well established, and supported by the concurrent authority of TEMMINCK, WILSON, FLEMING, &c.; in addition to which I may be allowed to add, that I have dissected several specimens in the plumage of *M. castor*, which proved to be males, possessing, in the form of the labyrinth and the *two* tracheal enlargements, the precise organization of the Goosander. I have also obtained individuals in the intermediate state of plumage, or when they had begun to acquire the characteristic markings of the adult bird. The trachea, which measures nearly a foot in length, becomes greatly enlarged about two inches below the larynx; and this dilatation (which is composed of alternating rings, and much flattened) is upwards of two inches and a half long. Below this, the tube is very much contracted, and nearly circular for more than an inch, when it again becomes enlarged, but not to the former extent; after which it gradually contracts, till its entrance into the lower larynx or labyrinth. This part consists of an *orca*, or enlargement of the bony rings, and a large ear-shaped *tympanum*, exhibiting three flattened surfaces, each covered with a fine parchment-like membrane. The bronchi are distant from each other, the one proceeding from the outer and lower part of the *orca*, the other from the lower and central portion of the *tympanum*. The Goosander is a bird of wild disposition, and very wary habits, and from its dexterity and quickness in diving very difficult to be shot. The flesh, from the fishy character of its food, is ill-flavoured and oily.

PLATE 57. represents the adult Male and the Female of the natural size.

**General
description.****Male.**

Bill, from the angle of the forehead, two inches and three-eighths long; black above and below, with the sides vermilion-red; the edges armed with sharp conical teeth, pointing backwards, and the palate with two acute serrated ridges. Legs and feet rich orpiment-orange, changing after death into red. Irides arterial blood-red. Head and upper part of neck glossy blackish-green; the feathers on the crown and nape being long, silky, and tumid. Lower part of the neck, breast, under parts, lesser and medial wing-coverts (except those nearest to the shoulder), tips of the greater coverts, secondary quills, and outer scapulars, rich buff-orange. Mantle, inner scapulars, humeral wing-coverts, bastard wing, greater quills, and narrow margins of the long tertials, velvet black. Back and tail deep grey, inclining upon the latter to clove-brown. Behind the thighs, and on the sides of the rump, white, undulated with fine zigzag curved lines of blackish-brown.

Female.

Head and upper part of the neck pale reddish-brown; inclining upon the crown to liver-brown; the crest long and pendant, formed of slender feathers. Chin and throat white. Lower part of the neck, breast, and sides greyish-white, undulated with pale clove-brown. Belly and abdomen white, with a tinge of buff. Upper parts deep bluish-grey, tinged with clove-brown. Tips of the greater coverts, and anterior half of the secondaries, white, forming a speculum of that colour upon the wings. Lesser coverts bluish-grey. Bill black above and below, with the sides dingy vermilion-red. Legs and feet orange.

Young.

The young males, until after the second moult, are similar to the old female bird, and can only be distinguished by dissection. In assuming the adult garb, they begin by shewing the blackish-green feathers upon the head and upper part of the neck.

RED-BREADED MERGANSER.

MERGUS SERRATOR, Linn.

PLATE LVIII. AND LVIII*.

- Mergus serrator*, *Linn. Syst.* 1. 208. 3.—*Gmel. Syst.* 1. 545. B.—*Lath. Ind. Orn.* 2. 829. sp. 4.—*Flem. Br. Anim.* 1. 129. sp. 201.—*Faun. Amer. Boreal.* 2. 462. No. 221.—*Wils. Amer. Orn.* 8. 84. pl. 69. f. 2. male.
- Merganser serrata*, *Shaw's Zool.* 12. 165.
- Mergus serrator leucomelas*, *Gmel. Syst.* 1. 546. D.
- Mergus cirrhatus fuscus*, *Raii Syn.* 135. A.—*Will.* 255. t. 64.
- Mergus cristatus*, *Briss. Orn.* 6. 237. 2. t. 23.
- Le Harle huppé, *Buff. Ois.* 8. 273.—*Id. Pl. Enl.* 207.—*Temm. Man. d'Ornith.* 2. 884.—*Cuv. Reg. Anim.* 1. 540.—*Lesson. Man d'Ornith.* 2. 420.
- Harle à Manteau noir, *Buff. Ois.* 8. 277.
- Langschnabliger Säger, *Bechst. Naturg. Deut.* 4. 795.—*Meyer, Tasschenb. Deut.* 2. 568.
- Red-breasted Merganser, *Penn. Br. Zool.* 2. 558. pl. 93. No. 261.—*Arct. Zool.* 2. 466.—*Edw. Glean.* pl. 95.—*Albin's Birds*, 2. pl. 101.—*Lewin's Br. Birds*, 6. 233.—*Lath. Syn.* 6. 423.—*Id. Sup.* 2. 337.—*Id. in Trans. Linn. Soc.* 4. 121. pl. 16. f. 1. 2.—(Trachea.) *Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826. 2. p. t. 257.
- Mergus serratus*, *Gmel. Syst.* 1. 546. sp. 3. var. A. } Female, and
Mergus niger, *Gmel. Syst.* 546. B. } Young Males.
Merganser niger, *Briss. Orn.* 6. 251. 5.

PROVINCIAL—Earl-Duck, Harle.

UPON the Northumbrian and other coasts on the north of England, this species is a regular winter visitant, but always more abundantly in severe than in mild seasons. It haunts the bays and inlets where small streams discharge themselves, as well as the estuaries of rivers, but seldom advances far beyond the influence of the tide. The greater part of those that visit us are females, and young males in the immature plumage; in which state, except as to size, they strongly resemble the former. In the Highlands and Isles of Scotland these birds are found at all seasons of the year, making the fresh-water lakes of the interior their residence during the summer, and in winter, should these become frozen, resorting to the salt-water inlets. They breed upon the margins of the lakes, or, in preference, upon the islets with which many of them are diversified.

Upon Loch Awe, in the Western Highlands, they are common, and their nests have been repeatedly found by Sir WILLIAM JARDINE and myself upon the several islands that beautify its western extremity.—The nest is always situated a few yards beyond the highest water-line, frequently beside a large stone covered with brambles, and coarse herbage, or under the shelter of some thick bush. It is composed of dried grass, small roots, &c., intermixed with feathers and a quantity of the down of the bird, which (as in the case of the Eider, and some other ducks), appears to be added to as incubation advances. The eggs are from seven to eleven in number, of a colour intermediate between cream-yellow and wood-brown, and in size and shape like those of the Common Duck. The bird sits remarkably close, and will sometimes allow itself to be almost trodden upon, before it will quit the nest. As soon as incubation commences, the old males desert the females (a habit, indeed, which may be observed in many species of the *Anatidæ*), and assemble in companies of three or four together. About this time, also, their plumage undergoes a considerable change, losing the deep colouring of the head and back, which parts become of a dingy cinereous grey, that is retained till the general (or autumnal) moult commences. This Merganser is an excellent diver, remaining for a long time submerged, during which it makes rapid progress. In this way it frequently escapes when wounded, merely raising its bill above water to take breath, and again dipping down, without causing any perceptible disturbance of the surface.—It feeds principally upon fish; and in two individuals that I dissected, and which were killed at the mouth of a small rivulet, flowing into Budle Bay, on the Northumbrian shore, I found the oesophagus and stomach gorged with a quantity of small eels, not exceeding two or three inches in length, and, as far as I could judge, of the common species. This bird is widely distributed throughout the northern parts of Europe, Northern Asia, and North America, retiring to high latitudes

during the summer, and in winter regulating its advances towards the equator by the state of the season. The trachea of the male bird differs from that of the Goosander, in having but one enlargement, which commences about two inches and a half below the glottis, and which, when extended, is upwards of three inches long, and is more than four times the diameter of the parts immediately above and below. About three inches above the lower larynx the tube becomes much flattened, and is formed of eighteen or twenty rings (broad and large on the back, but fine and narrow on the front view), the spaces between them being covered by a fine membrane; and this part much resembles the corresponding portion of the trachea of the Long-tailed Hareld (*Harelda glacialis*). The tympanum is very large, and of an irregular heart-shape, being formed of two large bony protuberances, which, taken together, measure two inches in length by one inch and a half in width, and both of which are furnished with a lateral drum-like membrane.

PLATE 58. represents the Adult Male of the natural size.

General
description.

Bill, from the nape of the forehead to the tip, two inches and a quarter long. The sides of the upper, and the whole of the under mandible orange; the culmen black; teeth numerous, conical, acute; those of the upper mandible largest, and pointing backwards. Legs and feet orange, inclining to tile-red. Irides arterial blood-red. Head, crest, and upper part of the neck glossy greenish-black; crest composed of long, narrow, loose-webbed feathers, pointing backwards. List on the back part of the neck, mantle, part of the shoulders, interior scapulars, basal half of the greater wing-coverts, secondary quills, bastard wing, greater quills, and narrow border of the long tertials, glossy black. Collar, middle part of the feathers forming the shoulder tuft, exterior scapulars, middle wing-coverts, anterior half of the greater coverts, and secondaries, long tertials, belly, and

Male.

abdomen, white. Upper part of the breast, and sides of the lower part of the neck pale reddish-brown, each side-edge of the feathers having a black streak. Sides, flanks, and behind the thighs, white, undulated with distinct zigzag bars of black. Lower part of the back and the rump deep clove-brown, undulated with white. Tail composed of sixteen feathers, deep broccoli-brown. Lesser wing-coverts, upon the ridge, and near to the shoulders, deep clove-brown.

Female. PLATE 58*. The Female, which bears a strong resemblance to that of the preceding species, but of inferior size, and having the speculum, or white part upon the wing, divided by a black bar, formed by a part of the basal half of the secondaries being exposed to view.

Crown of the head, and occipital crest liver-brown. Sides of the head and neck pale reddish-brown. Chin and throat white. Upper plumage (in winter) deep broccoli-brown; the feathers upon the mantle and sides of the breast being margined with greyish-white. Under plumage white. Flanks broccoli-brown, margined paler. Bill and legs dingy orange. Irides red.

Young. The young males resemble the females till after the second moult, when they begin to show about the head and back the characters of the adult bird.

HOODED MERGANSER.

MERGUS CUCULLATUS, Linn.

PLATE LVIII.**

- Mergus cucullatus*, Linn. Syst. 1. 207. 1.—Gmel. Syst. 1. 544.—Lath. Ind. Orn. 2. 830. sp. 5.—Wils. Amer. Orn. 8. 82. pl. 69. f. 1.—Faun. Amer. Boreal. 2. 463. No. 222.
Merganser Virginianus cristatus, Briss. Orn. 6. 258. 8.
Merganser cucullatus, Steph. Shaw's Zool. 12. 168.
 Le Harle couronné, Buff. Ois. 8. 280.—Id. Pl. Enl. 935. 36.
 Round-crested Duck, Edward's Glean. pl. 360.
 Wind Bird, Will. (Angl.) 389.
 Hooded Merganser, Penn. Arc. Zool. 2. No. 467.—Lath. Syn. 6. 426. 101.
 —Wils. Amer. Orn. 8. 82. pl. 69. f. 1. male.—Selby in Trans. Nat. Hist. Soc. Northumberland, Durham and Newcastle, 1. 291.
Mergus fuscus, Lath. Ind. Orn. 2. 832. sp. 9. ? }
 Brown Merganser, Arct. Zool. 2. Sup. p. 74. ? } Young.

I AM enabled to add this beautiful species to the list of the British Fauna as a rare visitant, upon the authority of a specimen that was killed at Yarmouth, in Norfolk, in the winter of 1829; the skin of which, through the kind attention of an esteemed correspondent, is now in my possession. It appears to be a young female, as the crest is not so fully developed, or the white upon the secondary quills so large, as in the skin of an adult bird of that sex, with which it has been compared. Since this capture, I have been informed that more instances have occurred, all apparently females, or young males in the garb of that sex; the adult male, in his elegant piebald plumage, never having yet been seen in Europe. This bird is a native of North America, and during the summer is found in the higher latitudes, or fur-countries of that continent, where it breeds upon the margins of the lakes and rivers. The nest is formed of grass and other herbage, intermixed and lined with down and feathers. Its eggs are stated to be eight or ten, and white; it is probable, however, that, when fresh laid, they will be like those of all its congeners, tinged with pale brown or buff. During the

Rare
visitant.

Nest, &c.

winter it migrates southwards, and is then dispersed along the coasts, and upon the lakes and rivers of the United States, where WILSON describes it as of frequent occurrence, and as possessing similar habits to those of the Red-breasted Merganser. In this species the bill is short, and intermediate in form between that of the Smew and of the two foregoing birds. The teeth are also different, for, instead of being conical and sharp-pointed, they are broad and even at the top, with sharp edges, and are obliquely set in the mandibles. The palate, also, in the place of acute longitudinal ridges, has several transverse furrows. With its tracheal anatomy we have but little acquaintance, as WILSON merely states that it has a small labyrinth; and the part is not adverted to by Dr RICHARDSON, or Mr SWAINSON.

PLATE 58** represents the above-mentioned specimen, of which the description is as follows.

General
description.
Female.

Length nearly eighteen inches. Bill, from the forehead to the tip, about one inch and a half long; rather slender, and not so thick at the base as in the Smew; the serratures broad, with sharp edges. The colour of the bill appears to have been orange at the base, and darker towards the tip. Chin greyish-white, speckled with pale broccoli-brown. Crown of the head inclining to liver-brown; the occipital crest (which is large and semicircular) passing into pale reddish-brown. Face, cheeks, and neck, pale broccoli-brown, or mouse colour. Breast and sides of the lower part of neck broccoli-brown, deeply margined with pearl-grey. Upper parts of the body brownish-black; the feathers upon the mantle and scapulars being margined with obscure greyish-brown. Outer edges of the exterior webs of the secondaries white, forming a small speculum in the middle of the wing. Under plumage white. The sides and flanks broccoli-brown, with paler margins. Tail composed of fourteen feathers, deep clove-brown, and reaching near-

ly three inches beyond the closed wings. Legs and feet brown, tinged with red. Tarsus one inch in length.

The following is a description of the adult male, as given by Dr RICHARDSON, in the *Fauna Americ. Boreal.*, and which agrees with that of WILSON in every essential particular.

Top of the head, dorsal plumage, upper small wing-coverts, **Male.** quills and tail, blackish-brown. Sides of the head, neck, bars upon the shoulders, scapulars, tertiaries, and bases of the secondaries and greater coverts, glossy greenish-black. Broad bar behind the eye, through the middle of the crest, alternate bars upon the shoulder, tips of the greater coverts, exterior borders of the secondaries, central stripes on the tertiaries, and under plumage, white. Flanks finely undulated with yellowish-brown and black. The crest, according to WILSON, is composed of two separate rows of feathers radiating from each side of the head, and which can be easily divided by the hand. Irides golden or king's-yellow.

SMEW, OR WHITE NUN.

MERGUS ALBELLUS, Linn.

PLATE LIX.

- Mergus albellus*, Linn. Syst. 1. 209. 5.—Gmel. Syst. 1. 547.—Brisson. Orn. 6. 245. 3. t. 24. f. 1.—Lath. Ind. Orn. 2. 831. sp. 6.—Shaw's Zool. 12. 157. pl. 52.—Wils. Amer. Orn. 8. 136. pl. 71. f. 4.—Flem. Br. Anim. 1. 129. sp. 202.
- Mergus major cirrhatus*, Raii Syn. 135. A.—Will. 254. t. 64.
- Le Petit Harle huppé, ou la Piette, Buff. Ois. 8. 275.—Id. Pl. Enl. 449.—Temm. Man. d'Orn. 2. 887.
- Welscher-säger, Bechst. Naturg. Deut. 4. 804.—Meyer, Taschenb. 2. 571.
- Smew, or White Nun, Penn. Br. Zool. 2. 559. No. 262.—Lewin's Br. Birds, 6. pl. 234.—Lath. Syn. 6. 428.—Id. Sup. 271.—Id. Sup. 2. 338.—Id. in Trans. Linn. Soc. 4. 234. pl. 16. f. 3. and 4. (trachea).—Mont. Orn. Dict. and Sup.—Pull. Cat. Dorset. 19.—Bewick's Br. Birds, ed. 1826, p. t. 200.—Flem. Br. Anim. 1. 129. sp. 202, &c.

- Female and Young Males. {
- Mergus minutus, *Linn. Syst.* 1. 209. 6.—*Lath. Ind. Orn.* 2. 832. sp. 7.
 - Mergus Asiaticus, *Gmel. Syst.* 1. 548. 6. B.
 - Merganser stellatus, *Briss. Orn.* 6. 252. 6.
 - Merganser cristatus minor, *Briss. Orn.* 6. 243. 3.
 - La Plette Femelle, *Buff. Pl. Enl.* 450.
 - Le Harle étoilé, *Buff. Ois.* 8. 278.
 - Weasel Coot, *Albin's Birds*, 1. t. 88.
 - Red-headed Smew, *Br. Zool.* 2. 263.—*Bewick's Br. Birds*, 2. 666.
 - Lough Diver, *Penn. Br. Zool.* 2. 560.—*Arct. Zool.* 2. 540.—*Bewick's Br. Birds*, ed. 1826, p. 262.
 - Minute Merganser, *Lath. Syn.* 6. 429. 6.—*Lewin's Br. Birds*, 6. pl. 235.
 - Mont. Ornith. Dict. and Sup.*

PROVINCIAL—Vare Wigeon, Magpie Diver.

Periodical
visitant.

IN severe winters the Smew is not uncommon in the eastern and southern parts of England, where it is found on the coast, as well as upon the rivers farther inland, and pools of fresh-water in the fenny districts. In the northern counties it is always of rare occurrence, arising in all probability from the line of its migration from the northern parts of Europe and Asia being in parallels more to the eastward, as it is abundant in Germany, Holland, France, &c. The majority of such as visit our shores are females, or immature males in the similar plumage, and known by the name of the *Lough Diver*, or Red-headed Smew; the male, in his mature garb, being comparatively seldom met with. In New England, and some other districts of the United States, according to WILSON, it is a common species during its winter migration; and is then found, as with us, both upon the sea-coast, and the lakes and rivers of the interior. He does not, however, mention the parts of that continent to which it retires during the summer, nor did the bird come under the notice of Dr RICHARDSON in the course of his northern expeditions. In Europe it retires to high latitudes for the purpose of reproduction; Iceland and Greenland being among the number; and in Asia it is found in Siberia, Kamtschatka, &c.—It breeds upon the banks of lakes and rivers, and its eggs are stated to be of a yellowish-white, from eight to twelve in number. Like the others of its genus, it is an admirable diver, and has the power of remaining long beneath the sur-

Nest, &c.

face without rising to breathe.—It feeds on fish (which it pursues under water), as also on small crustaceæ, and insects. It is a very shy and vigilant bird, and takes wing with great readiness when apprehensive of danger; flying rapidly, and supporting it for a long time. The trachea of the male is narrow immediately below the glottis, but becomes gradually enlarged as it approaches the middle of its course, from whence to the lower larynx it is of nearly an equal diameter, formed of bony rings, with very little intervening cartilage. The labyrinth is not so large in proportion to the size of the bird as that of the Goosander, or of the Red-breasted Merganser, and differs also in form; its *greatest* diameter being the horizontal one, instead of the perpendicular. The exterior face of the tympanum has a large rounded orifice, covered by a thin membrane, as in the Goosander. The females and young males of this bird were long considered to be a distinct species; the discovery, however, by Dr LATHAM and others, of the males of this supposed species possessing the precise tracheal organization of the adult male Smew, has enabled later writers to correct the error. Mr STEPHENS has separated the Smew from the other Mergansers, on account of the comparative shortness of its bill, and the modification of the teeth or serratures, which do not point so distinctly backward, and are closer set than in the larger species. At the same time, he has retained the Hooded Merganser among them, although its bill (taking the size of the respective birds into consideration) is nearly as short as that of the Smew, and the teeth, in their form and arrangement, differ even more from those of the Goosander, &c. than those of the latter bird. This arrangement has not, however, been adopted by any other ornithologist.

Food.

PLATE 59. represents the Male and Female, of the natural size.

Bill and legs deep bluish-grey. On each side of the face, and surrounding the eye, is a large patch of greenish-

General description.

- Male.** black ; the occiput, and part of the occipital crest, being of the same colour. Head, neck, breast, and under plumage, pure white. The back, and the two crescents, which advancing, partly encircle the lower neck and breast, black. Shoulders, and part of the lesser wing-coverts, white. Scapulars white, and greyish-white, margined on the outer webs with black. Secondaries and middle wing-coverts deep glossy black, with a narrow fringe of white. Sides and flanks with transverse zigzag lines of black. Upper tail-coverts bluish-grey. Tail the same, and graduated. Quills brownish-black.
- Female.** Much less than the male bird. Head, crested occiput, and hinder part of the neck, reddish-brown. Throat and sides of the upper part of the neck, white. Lower part of neck, breast, sides and flanks, ash-grey. Back, scapulars, upper tail-coverts, and tail, deep grey, inclining to clove-brown. Middle part of the lesser wing coverts greyish-white. The rest of the wings (with the exception of the secondaries and greater coverts, which are bordered with white) deep greyish-black. Legs and bill deep grey.
- Young.** The young of both sexes are similar to the adult female. At the second moult the males indicate, by a few black feathers, the commencement of the patch on the side of the face ; the back also becomes varied with black ; and appearances of the two crescents are discernible.

FAMILY II.—COLYMBIDÆ.

FROM the natatorial groups of the *Anatidæ*, distinguished, as we have seen, from the rest of that family by the flattened form of the body, the backward position of the legs, the shortened and concave wings, and by habits more decidedly accordant with a life on the ocean, we now pass on to the family of the *Colymbidæ*. Here we shall find the above characteristics displayed in a still greater degree, and which, as contributing so essentially to the perfection of this mode of existence, render this family one of the typical divisions of the Order. In the birds which compose it, the legs are placed at the extremity of the body, with which they form an acute angle, acting, as it were, as propelling oars from the stern. The tarsi and feet alone are exposed and free; the tibia and *femur* being inclosed within the integuments of the abdomen. The tarsus is remarkably thin, or laterally compressed; and the feet (although large, and furnished with membranes) have the toes so articulated, as to fold into a very small compass when drawn towards the body after making the necessary stroke, thus offering the least possible resistance in the water. The lobated hind toe possessed by the more aquatic ducks is still retained in this family, and, in some members of it, is joined to the inner toe by a small uniting membrane, shewing thus a connexion also with the *Pelecanidæ*. The contour of the body is oval, broad, and depressed, narrowing towards the neck, which is long and tapering. The wings are short and concave, as well, or perhaps even better, adapted for aiding progression beneath the surface of the water, as through the air. The bill is strait and compressed, ending in a sharp point, and destitute of the cuticular membrane that envelopes it in the *Anatidæ*. From the backward position of the legs the individuals of

this family are unable to walk upon land, and they rarely of their own accord come to shore, unless for the purpose of reproduction ; and this is almost always effected on the immediate margin of the water, or amidst the floating herbage that covers many of the situations they inhabit. They swim and dive with equal ease, and can remain for a long time submerged. The genera at present assigned to this family are two, viz. the Grebe (*Podiceps*), and Diver (*Colymbus*).

GENUS PODICEPS, LATHAM. GREBE.

GENERIC CHARACTERS.

BILL as long as, or longer than, the head, strong, slightly compressed, strait, entire, hard, and pointed ; the upper mandible inclining slightly towards the tip ; the lower one turning upwards from the *gonys*, or angle ; tomia of both mandibles bending inwards. Nostrils lateral, basal, linear, pierced in the middle of the nasal fosse. *Lorum*, or space between the corner of the bill and the eye, naked.

Wings short, and concave. No tail.

Legs placed at the posterior extremity of the body ; the tibiæ enclosed within the integuments of the abdomen. Tarsi much compressed ; feet of four toes, three before, and one behind ; the front toes much flattened, and each furnished with a broad membrane ; which membranes become united near the base ; outer toe longer than the middle one ; hind toe articulated on the tarsus, and provided with a lobated membrane. Nails large, flat, and broad. Plumage soft, downy, thick ; with a silky lustre.

In former systems, when the natural affinities which connect the various Orders, Families, &c. together were neglected, or at least but imperfectly investigated, the *Grebes*, from a fancied resemblance (for such it may properly be termed)

in the form of their feet, were arranged with the *Coots* and *Phalaropes* (birds also belonging to different families), and formed a truly artificial division, under the title of *Pinnatipedes*. Instead of the free tibia, and the gressorial foot, calculated for progress upon land, and at the same time furnished with distinct membranes to assist in swimming, as we see exemplified in the Coot, the feet of the Grebes are formed upon a very different plan, and expressly adapted for the watery element, as the position of the tarsus and the articulation of the toes are such as to give no stability to the body upon land, and progression there is effectually prevented by the restrained action of the tibiæ. Except in the toes being separated towards their extremities, and each furnished with a distinct web, the form of the legs and feet approaches closely to that seen in the genus *Colymbus*; the tarsus suffering an equal lateral compression, and the outer toe exceeding the other two in length. The Grebes are remarkably active in the water, which they never quit, as they even breed there; making their nests amidst the reeds and other strong aquatic herbage that is found in the localities they inhabit. From their shortness of wing, and want of tail, they rise with difficulty, and scarcely ever have recourse to flight, except for change of abode, or migration; as, when pursued, they always endeavour to escape by diving. They feed on fish, aquatic insects, and vegetables. The genus has a wide geographical distribution, some species being found in every quarter of the globe.

RED-NECKED GREBE.

PODICEPS RUBRICOLLIS, Lath.

PLATE LXXII.

- Podiceps rubricollis, Lath.* Ind. Orn. 2. 783. sp. 6.—*Steph. Shaw's Zool.* 13. 8.—*Flem. Br. Anim.* 1. 131. sp. 207.—*Faun. Amer. Boreal.* 2. 411. No. 175.
Colymbus rubricollis, Gmel. Syst. 1. 592.
Colymbus subcristatus, Gmel. Syst. 1. 590.
 Le Grèbe à Joues grises, *Buff. Ois.* 8. 241.—*Id. Pl. Enl.* 931.
 Grèbe Jou-gris, *Temm. Man. d'Ornith.* 2. 720.
 Graukehliger Steissfuss, *Meyer, Tasschenb. Deut.* 2. 429.
 Red-necked Grebe, *Penn. Arct. Zool.* 2. 499. C.—*Lath. Syn.* 5. 288.—*Id. Sup.* 260. pl. 118.—*Levin's Br. Birds.* 5. pl. 199.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br. Birds,* ed. 1826, 2. p. t. 161.—*Shaw's Zool.* 13. 8.—*Rennie's Mont. Orn.* p. 408.
Colymbus Parotis, Gmel. Syst. 1. 592.—Young.

Most of our authors speak of the Red-necked Grebe as a very rare British species, but more, I am inclined to think, from a want of knowledge of its habits during its sojourn with us, than from the real scarcity of the bird, as in Northumberland I have met with it at least as frequently as any of the other species. It differs, however, from them in being much oftener seen in the salt than in fresh water; and from the facility with which it can escape in the open sea, and the little attention paid to so nimble a diver by the wildfowl shooter, it is seldom procured, unless expressly sought for.

Periodical
visitant.

The several specimens I have obtained were all killed during the winter and early spring months, therefore I conceive it to be only a visitant to us during that period; and this opinion seems strengthened by the silence of all our own writers as to its breeding in the British Islands. In size it is intermediate between the Horned and the Crested Grebes, of which latter species PENNANT supposed it might be a variety. A comparison, however, between these two must at once convince any one of that not being the case, the distinctive characters of the red-necked species being decidedly promi-

nent. Like the others of its genus, it is a very expert diver, remaining long under water; and, when pursued, merely raises its bill above the surface for respiration.—It feeds upon small fish, insects, &c.; and the stomach, upon dissection, is always found to contain a mass, greater or less, of its own feathers,—a peculiarity which has been observed in all the species, but whether swallowed accidentally in dressing the plumage, or purposely to aid the digestive process, has not yet been satisfactorily ascertained. I should rather favour the latter supposition, as the feathers which have been for some time in the stomach are much comminuted, and in a fit state for passing into the intestines; a fact also observed by MONTAGU. This species is widely diffused, being abundant in the eastern parts of Europe, where it is found upon the lakes and larger rivers, but it becomes gradually rarer to the westward. It is also an inhabitant of the Arctic Regions of America, and was met with upon the Great Slave Lake during FRANKLIN'S Expedition in 1822.—Its nest is built amidst the aquatic herbage, or reeds, composed of similar decayed materials, and rises and falls with the water. The eggs are stated by TEMMINCK to be three or four, of a greenish-white, clouded with deep brown.

Food.

Nest, &c.

PLATE 72. Represents this bird of the natural size, from a specimen killed in 1826 at the Fern Islands, on the Northumbrian coast.

Bill one inch and a half in length from the forehead to the tip, black, with the base of the under mandible, and the lower part of the upper one, lemon-yellow. Crown of the head, and occipital tufts, deep glossy greyish-black. Cheeks, chin, and throat, grey, palest towards the junction with the feathers of the head. Back part of the neck and upper plumage deep blackish-grey, with the edges of the feathers paler. Throat and breast orange-coloured brown, the latter being clouded with greyish-white. Belly and abdomen greyish-white, with a silky

General description.

lustre, and faintly spotted with darker grey. Sides and flanks grey, the feathers open in texture. Five or six of the secondary quills white, forming a patch or speculum. Quills hair-brown. Legs and toes greyish-black, with a greenish tinge.

CRESTED GREBE.

PODICEPS CRISTATUS, Lath.

PLATE LXXIII. FIGS. 1. AND 2.

- Podiceps cristatus*, Lath. Ind. Orn. 2. 780. 1.—*Steph. Shaw's Zool* 13. 3.—*Flem. Br. Anim.* 1. 131. sp. 206.—*Faun. Amer. Boreal* 2. 410. No. 174.
Colymbus cristatus, Linn. Syst. 1. 222. 7.—*Gmel. Syst.* 1. 589.
Colymbus major cristatus et cornutus, *Raii Syn.* 124. A. 2.—*Will.* 257. t. 61.
Colymbus cornutus, *Briss. Orn.* 6. 45. No. 4. t. 5. f. 1.
Le Grèbe cornu, *Buff. Ois.* 8. 235. t. 19.—*Id. Pl. Enl.* 400.
Grèbe huppé, *Temm. Man. d'Orn.* 2. 717.—*Cuv. Reg. Anim.* 1. 500.—*Lesson, Man. d'Ornith.* 2. 356.
Gehaubter Steissfuss, *Bechst. Naturg. Deut.* 4. 533.—*Meyer, Tasschenb. Deut.* 2. 426.
Greater Crested and Horned Douker, *Albin's Birds*, 1. t. 81.—*Will. (Angl.)* 340. t. 61.
Crested Grebe, *Br. Zool.* 2. 497. No. 223.—*Arct. Zool.* 2. 498. A.—*Lath. Syn.* 5. 281. 1.—*Levin's Br. Birds*, 5. pl. 106.—*Mont. Ornith. Dict.* 1.—*Bewick's Br. Birds*, ed. 1826, 2. p. t. 153.—*Shaw's Zool* 13. 3.
Colymbus urinator, Linn. Syst. 1. 223. 9.—*Gmel. Syst.* 1. 593.
Colymbus, *Briss. Orn.* 6. 34. 1. t. 3. f. 1.
Colymbus cinereus major, *Raii Syn.* 124. A. 1.
Colymbus major Aldrov. *Raii Syn.* 125. 6.—*Will.* 256.
Le Grèbe, et *le Grèbe huppé*, *Buff. Ois.* 8. 233. et 237.—*Id. Pl. Enl.* 944. et 941.
Greater Loon or Arsefoot, *Will. (Angl.)* 339. 51.—*Edw.* t. 360.
Tippet Grebe, *Br. Zool.* 2. 496. No. 222. t. 78.—*Lath. Syn.* 5. 283. 2.—*Bewick's Br. Birds*, ed. 1826, 2. p. t. 155.

PROVINCIAL.—Gaunt, Cargoose, Loon.

THE Crested Grebe is one of the largest of the genus, and is an indigenous species, breeding annually on the pools amidst the fens, on the moors of Shropshire and Cheshire, and on a few of the northern Scottish lakes. During the winter, when the waters of the interior of the country are frozen, it retires to the mouths of rivers, and to the line of sea-coast, where it obtains the necessary supply of fish and

small crustaceous animals, which constitute its principal food, as I have repeatedly found upon opening the stomachs of those obtained during the above season. Being upwards of three years in acquiring maturity, or at least the full development of the frieze that surrounds the neck and the occipital tufts, it is much more frequently met with in the young or imperfect state of plumage, than in that of the adult; and out of more than a dozen specimens, which have at different times come under my observation, not one had attained the distinguishing characters of the Crested Grebe. In this immature state it was long supposed to be a distinct species, and as such was known by the name of the *Tippet Grebe*, adopted from the use to which the soft and silky plumage of the lower parts of the body was often applied. When swimming, it moves very rapidly, and, from the flatness of its body, exhibits little more than the head and neck above the water. It dives with remarkable quickness, and is able to avoid the shot from a fowling-piece fired by flint and steel, though it cannot so easily escape from the sudden inflammation of the percussion-lock. Its progress when below the surface, which (as in other diving birds) is performed by an action of the wings somewhat similar to that of flying, is so speedy, as frequently to baffle the pursuit of a well-managed boat, and a stretch of 200 yards is sometimes made, before it rises again to breathe; and this act of respiration, before the bird becomes fatigued by continued pursuit, is commonly effected by merely raising the head above water*. It rarely flies, according to TEMMINCK, even making its migrations by swimming, which, however, cannot always be the case, as it is sometimes found on isolated pieces of water, where it could not arrive unless by the use of its wings; and

* When making a tour through Holland, in company with Sir WILLIAM JARDINE, we one day, in looking after wild fowl upon the lakes in the neighbourhood of Rotterdam, gave chase to a bird of this species, and though in a boat conducted by those accustomed to the business, it cost us upwards of an hour and a half's severe exertion, to get within range, and secure it by a shot through the neck.

these, though short, are not comparatively smaller than in some other species that are known to fly occasionally. Upon the continental parts of Europe it is abundant, particularly in Holland and certain districts of Germany. It is also known in America, and is mentioned in the *Fauna Americæ Borealis*, as having been killed by Dr RICHARDSON upon the *Suskatshewan*.—It breeds in the fresh water, amidst reeds and other rank herbage, and the nest, which is very large and floats on the surface, is composed of a mass of decayed vegetable roots, flags, stems of water-lily, &c. The eggs, three or four in number, are of a greenish-white, in size rather bigger than those of a Teal. The young, when first excluded, are clothed in a parti-coloured down of reddish-brown and greyish-white, and are assiduously attended by the parent, who procures food for them, and, according to PENNANT, has often been observed to feed them with small eels.

PLATE 73. Fig. 1. Represents the adult bird in perfect plumage.

General
description.

Adult bird.

Bill longer than the head, measuring two inches in length from the forehead to the tip; the base dull brick-red, the tip greyish-white. Lores red. Irides crimson-red. Eyestreak, cheeks, and throat, white. Crown of the head, long occipital tufts, and bottom part of the neck-frieze, lustrous greyish-black. The upper part of the neck-frieze pale reddish-brown. Fore part of the neck and under parts white, with a silky or silvery lustre. Hind part of the neck, back, scapulars, middle wing-coverts and flanks, deep clove-brown, with a blackish-green lustre. Wing-coverts next to the shoulders, and the secondary quills, white. Greater quills hair-brown. Legs on the outside grey, or deep lead-colour; on the inside yellowish-white. Hind ridge of the tarsus having a double row of serratures, formed by the projection of the scales that run down each side.

Fig. 2. Represents a bird of the second year.

Young
bird.

Cheeks and throat white. Occipital tufts short, blackish-grey. Sides and flanks dashed with yellowish-brown. During the first year, the occipital tufts are scarcely discernible. As the bird approaches to maturity, the tufts increase in size, and the neck-frieze becomes gradually developed.

HORNED GREBE.

PODICEPS CORNUTUS, Lath.

PLATE LXXIV. FIGS. 1. AND 2.

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| <p><i>Podiceps cornutus</i>, Lath. Ind. Orn. 2. 782. sp. 5.—<i>Shaw's Zool.</i> 13. 9. pl. 1.—<i>Flem. Br. Anim.</i> 1. 131. sp. 208.—<i>Fauna Amer. Boreal.</i> 2. 411. No. 176.
 <i>Colymbus cornutus</i>, Gmel. Syst. 1. 591. sp. 19.
 <i>Colymbus cornutus minor</i>, Briss. 6. 50. 5.
 <i>Colymbus seu Podiceps minor</i>, Raitt Syn. 190. 14.
 <i>Le Petit Grébe cornu</i>, Buff. Ois. 8. 237.—<i>Cuv. Reg. Anim.</i> 1. 508.—<i>Lesson</i>, Man. d'Ornith. 2. 356.
 <i>Grébe d'Esclavonie</i>, Buff. Pl. Enl. 404.
 <i>Grébe cornu</i>, ou <i>Esclavon</i>, Temm. Man. d'Ornith. 2. 721.
 <i>Gehörnter Steissfuss</i>, Meyer, Tasschenb. Deut. 2. t. Heft. 18.
 <i>Eared or Horned Dohchick</i>, Edwards' Glean. t. 145.
 <i>Horned Grebe</i>, Penn. Arct. Zool. 2. 417.—<i>Lath. Syn.</i> 5. 287. 6. t. 91.—<i>Shaw's Zool.</i> 13. 9. pl. 1.—<i>Flem. Br. Anim.</i> 1. 131. sp. 208.—<i>Rennie's Mont. Ornith. Dict.</i> 261.
 <i>Slavonian Grebe</i>, Mont. Ornith. Dict. 1. et Sup.
 <i>Podiceps obscurus</i>, Lath. Ind. Orn. 2. 782. sp. 4.
 <i>Podiceps caspicus</i>, Lath. Ind. Orn. 2. 784. sp. 7.
 <i>Colymbus obscurus</i>, Gmel. Syst. 1. 592.
 <i>Colymbus caspicus</i>, Gmel. Syst. 1. 593.
 <i>Le Petit Grébe</i>, Buff. Ois. 8. 232.—<i>Id.</i> Pl. Enl. 942.
 <i>Black and White Dohchick</i>, Edwards' Glean. pl. 96. f. 1.
 <i>Dusky Grebe</i>, Penn. Br. Zool. 2. 496. No. 225. pl. 78.—<i>Arct. Zool.</i> 2. 420.—<i>Lath. Syn.</i> 5. 286.—<i>Lewin's Br. Birds</i>, 5. pl. 198.—<i>Mont. Ornith. Dict.</i>—<i>Bewick's Br. Birds</i>, ed. 1826, 2. p. t. 159.*</p> | <p>} The Adult.</p> <p>} Young.</p> |
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IN the adult plumage the Horned Grebe may be reckoned a rare British bird, particularly in the northern counties of

* There is no doubt but that the above synonymes attached to the young of this species are equally liable of application to the *Eared Grebe* in the immature state, which is only to be distinguished by a difference in the form of the bill.

England, where a fresh specimen in this state never fell under my observation. It does, however, breed (though in small numbers) in the fenny districts of the eastern counties, but not, as far as I can ascertain, in Scotland, although Dr FLEMING, in his History of British Animals, has given it as *resident* there, and common. In the young state, or as the *Dusky Grebe* of authors, it is by no means uncommon upon our coasts during the winter months, where it inhabits inlets and the mouths of rivers, and scarcely a season passes without several of these and the young of the next species being brought for my inspection. Its habits are similar to those of the two preceding species, and it is equally active in the water, whether in swimming or diving. It feeds on shell-fish, crustaceæ, and insects; and in its stomach, on dissection, is found the same sort of concreted mass of feathers that has been before mentioned in the account of the Red-necked Grebe, and which appear to be mostly taken from the under parts of the body.—It breeds among the reeds and sedges, constructing a large nest of decayed vegetables, roots, &c., and which is calculated to rise and fall under the influence of the tide. In this it lays four or five eggs of a sullied white, but according to TEMMINCK, spotted with brown. In Europe, it is most plentiful towards the north-east, and is also found in Northern Asia. It is a common species in North America, and is described by Dr RICHARDSON as frequenting every lake with grassy borders throughout the fur countries.

Food.

Nest, &c.

General
description.
Adult bird.

PLATE 74. Fig. 1. Represents the Adult Male, from a beautiful British specimen kindly lent to me for the present purpose by WILLIAM YARRELL, Esq.

Bill shorter than the head, compressed; both mandibles equally sloping to its point, black; the base of the under mandible flesh-coloured, the extreme point greyish-white. Lore lake-red. Irides crimson, with an interior ring of white. Forehead, crown, and large ruff

encircling the neck, glossy greenish-black. Between the bill and eyes is a patch of reddish-brown. Streak behind the eyes, and the occipital tufts (or horns) buff-orange. Hind part of the neck, back, scapulars and wings, blackish-grey, the feathers having paler margins. Secondaries white. Fore part and sides of neck, and sides of the breast, rich reddish-orange. The rest of the under plumage shining silky white. In the legs, the outside of the tarsus is deep grey, and the inside pale yellowish-grey.

ig. 2. Represents the same bird in the state in which it is commonly known by the name of the *Dusky Grebe*, that is, in its first year. Young bird.

Bill bluish-grey, towards the base flesh-red. Lore red. Crown of the head, nape and back part of the neck, and the whole of the upper plumage, greyish-black, with a tinge of clove-brown, the dorsal feathers having paler margins. Chin, cheeks, and throat, pure white. Fore part and sides of the neck greyish. Sides and flanks grey. The rest of the under plumage silky white. Legs nearly the same as in the adult bird.

EARED GREBE.

PODICEPS AURITUS, Lath.

PLATE LXXIV. FIG. 3.

diceps auritus, Lath. Ind. Orn. 2. 781. sp. 3.—*Shaw's Zool.* 13. 12.—*Flem. Br. Anim.* 1. 132. sp. 209.

ymbus auritus, Linn. Syst. 1. 222. 7.—*Gmel. Syst.* 1. 590.—*Brisson. Orn.* 1. 54. 6.

Petit Grébe huppé, Buff. Ois. 8. 235.

Grébe Oreillard, Temm. Man. d'Ornith. 2. 725.—*Lesson, Man. d'Ornith.* 1. 356.

Hörter oder Ohren Steissfuss, Bechst. Naturg. Deut. 4. 552.—*Meyer, Taschenb.* 2. 435.

red Dobchick, Edwards' Glean. pl. 96. f. 2.

red Grebe, Br. Zool. 2. 500. No. 227. pl. 79. fig. 1.—*Arct. Zool.* 2. 499.

B.—*Lath. Syn.* 5. 285. 4.—*Levin's Br. Birds*, 5. pl. 107.—*Mont. Orn. Dict. and Sup.* with fig.—*Bewick's Br. Birds*, ed. 1826, p. t. 157.

THIS species, so nearly resembling the preceding one in its various states of plumage, is also in its adult and perfect garb a rare British bird, the few that occasionally breed here being confined to the fenny districts and to the grassy pools of the eastern counties of England. In winter I have frequently met with it in the young state on the Northumbrian coast, where it is confounded with the young of the preceding species, and both are indiscriminately called the *Dusky Grebe*. In the disposition and colours of the plumage, scarcely any difference exists between them, but the white of the cheeks and throat of the present bird does not extend quite so far backward towards the occiput, as in the other. The form of the bill, however, is always a sufficient point of distinction between the two, being depressed at the base, and rather turning upwards in *Podiceps auritus*, whilst in *P. cornutus* it is compressed and strait throughout its length, both mandibles being equally and gradually inclined towards the tip, and forming a cone. In the adult plumage the disposition and colours of the auricular tufts and ruff, render the difference between the two birds rather more marked. In point of size it is also rather less than *P. cornutus*, more particularly in individuals arrived at maturity. Its habits, food, and nidification, are so similar to the preceding species, as to render further description unnecessary. It lays four or five eggs, of a tarnished or greenish-white, and nearly equal in size to those of the Land Rail. The Eared Grebe is a common species in the northern parts of Europe, inhabiting the lakes, rivers, and pools, wherever aquatic herbage is abundant.

PLATE 74. Fig. 3. Represents the adult bird, from a specimen in the Museum of Newcastle-upon-Tyne.

General
descrip-
tion.

Bill black, about an inch in length, measured from the forehead; depressed at the base, and having the tip slightly reflected. Lore blackish-red. Irides vermilion-red. Crown of the head, and short ruff round the

neck, shining black. From behind and below the eyes on each side, is a tuft of long slender shining orange-buff feathers which cover the ears, and nearly meet behind. Throat, neck, sides of the breast and upper plumage, deep shining greyish-black. Flanks and sides reddish-brown, mixed with greyish-black. Secondaries white. Under plumage white, with a silky lustre. Tarsi clove-brown, on the inside paler.

The description of the young of the preceding species may serve for that of the present one, the only points of difference having been noted in the above account of the *Eared Grebe*.

LITTLE GREBE.

PODICEPS MINOR, Lath.

PLATE LXXV.

Podiceps minor, Steph. Shaw's Zool. 13. 13. pl. 2.—*Flem. Br. Anim.* 1. 132. sp. 210.

Grèbe castagneux, Temm. Man. d'Ornith. 2. 727.

Kleiner Steissfuss, Bechst. Naturg. Deut. 4. 565.—*Meyer, Taschenb. Deut.* 2. 436.

Little Grebe, Steph. Zool. 13. 13. pl. 2.—*Flem. Br. Anim.* 1. 132. No. 210.

Dabchick, Rennie's Mont. Ornith. Dict. 126.

Podiceps Hebridicus, Lath. Ind. Orn. 2. 785. sp. 11.

Colymbus Hebridicus, Gmel. Syst. 1. 594.

Black Chin Grebe, Br. Zool. 2. 503. No. 227.—*Lath. Syn.* 5. 292.—*Lewin's Br. Birds*, 5. pl. 201.—*Mont. Orn. Dict. and Sup.*—*Sowerby's Br. Mis.* pl. 70.—*Bewick's Br. Birds*, ed. 1826, 2. 164. } Old.

Podiceps minor, Lath. Ind. Orn. 2. 784. sp. 9.—*Rati Syn.* 125. A. 3.

Colymbus minor, Gmel. Syst. 1. 591.

Colymbus fluviatilis, Briss. Orn. 6. 59. 9.

Le Grèbe de Riviere, ou le Castagneux, Buff. Ois. 8. 224. t. 20.—*Id. PL. Enl.* 905. } Young.

Little Grebe, Penn. Br. Zool. 2. 501. No. 228.—*Lath. Syn.* 5. 289.—*Lewin's Br. Birds*, 5. pl. 200.—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826, p. t. 163.

PROVINCIAL—Dabchick, Dobchick, Didapper, Dipper, Small Doucker, Loon.

THIS well known little species, in many parts recognised by the name of *Dabchick*, is indigenous, and very generally

met with throughout the kingdom, in all such places as suit its particular economy. In the southern counties of England, where ponds are often fringed with aquatic plants, and the rivers and brooks run deep and slow, the Dabchick is much more plentiful than in the northern districts, where the streams being generally shallower, and the current rapid, there is not a sufficient growth of aquatic herbage upon their borders, to afford this and birds of a similar nature concealment during the period of nidification. Like most of its congeners, the present species, in its progress to maturity, is subject to a considerable change in the colours of the plumage, more particularly about the head and neck, and has, in the different states, been described by authors as two distinct species, viz. as the *Little Grebe* and the *Black-Chin Grebe*, the first denoting the young bird, the other after it has acquired the characteristic markings of maturity. It leads a truly aquatic life, being seldom seen on shore, where, indeed, it is unable to make much progress, from the conformation and position of its feet; but this deficiency is compensated by powers more adapted to its peculiar habits, those of swimming and diving, which it possesses in as great perfection as any of its tribe. When disturbed, it immediately dives, and remains for some time submerged; and should the cause of its apprehension still continue in sight, after a first survey, it retires to the weeds, where it remains with the body immersed, and with the bill and part of the head only above the water.—Its food consists of aquatic insects, small fish, grasses, &c., and in its stomach, when opened, is generally found a small mass of its abdominal feathers. During winter, when the ponds and brooks become frozen, Dabchicks betake themselves to the mouths of rivers and small retired bays, where they feed upon shrimps, fry of fish, and marine insects. At this season I have several times caught them in Budle Bay on the coast of Northumberland, when they happened to be left in small pools after the recess of the tide. Having first dived, they afterwards invariably endeavoured

Food.

to conceal themselves among the fronds of the algæ, rarely attempting to escape by flight. They are, however, by no means destitute of this power, but can skim near to the surface of the water by a rapid action of the wings, and, as MONTAGU observes, are frequently seen to do so during the pairing season, when the males are in pursuit of the other sex. This, like the others of its genus, breeds among the reeds and coarse herbage of the waters it inhabits, and (according to Dr RENNIE, who appears to have inspected many of them) generally so fixes its nest to the surrounding tufts, Nest, &c. or upon the vegetable *debris* of former years, as to render it secure, and not liable to be moved or acted on by the water. TEMMINCK, however, says, that it makes a floating nest; his words are—"Nid flottant dans les roseaux," and other authors have asserted the same. Both modes, I believe, are occasionally adopted, and are dependent upon the nature of the site that the bird happens to select. It is formed of a large mass of decayed roots, flags, and other herbage; and contains usually five or six eggs of a greenish-white, in size nearly equalling those of the Spotted Crake (*Crex Porzana*), but different in form, each end being similarly rounded. These the female, when she quits her nest to obtain food, covers over with loose materials, a habit possessed by many other birds, and probably by all the species of the present genus, apparently for the concealment and protection of the eggs, and not for the purpose of retaining the warmth of incubation, as suggested by Dr RENNIE, in his plan of study appended to his edition of MONTAGU's Ornithological Dictionary.

PLATE 75. Fig. 1. Represents the Adult bird, or in the state of the *Black-Chin Grebe* of PENNANT and other authors.

Bill five-eighths of an inch in length from the forehead to the tip, black, with the basal part and the lore greyish-white. Irides deep reddish-brown. Outside of the legs

General
description.

greenish-black, inside livid, and tinged with flesh-red. Asperities on the hinder edge of the tarsus prominent, and sharp-pointed. Head, chin and throat, nape and back part of the neck, glossy black, with a slight tinge of green. Auriculars, sides of the neck, and middle of the fore part of the neck, rich orange-brown. Breast, sides and flanks, glossy blackish-grey, the latter having the lower parts of the feathers and the down pale reddish-brown. The rest of the under plumage silky white, intermixed with blackish-grey. Upper plumage glossy black, tinged with oil-green. Secondary quills having their bases, and the greater part of the webs, white.

Fig. 2. Represents the immature bird, destitute of the orange-brown upon the neck, and having the chin white. The upper plumage is also lighter in colour, and the belly and abdomen are pure white.

GENUS COLYMBUS, *LATH.* DIVER.

GENERIC CHARACTERS.

BILL rather longer than the head, strong, strait, compressed, and sharp pointed; the upper mandible slightly exceeding the lower one in length. Tomia of both mandibles bent inwards and sharp. Nostrils basal, lateral, linear, oblong, pervious, half closed by a membrane.

Wings short, acuminate, having the first quill-feather the longest. Tail short and rounded.

Legs abdominal, or placed at the further extremity of the body, with the tibiæ concealed within the integument. Tarsi thin, very much compressed. Feet large, of four toes, three before and one behind; outer toe exceeding the middle one

in length. Front toes entirely webbed, hind toe furnished with a lobe, and partly connected with the exterior membrane of the inner toe. Nails flat and broad.

General contour broad and flat. Plumage thick, close, adpressed, and glossy.

In their aquatic habits and mode of life, the Divers strongly resemble the preceding genus, being the constant inhabitants of the watery element, to which, indeed, we may consider them as equally confined by the similar conformation and position of their legs. They differ, however, from the Grebes in having the toes connected throughout their length, as in the *Alcadæ* and *Anatidæ*; but their form and articulation are like those of Grebes, and the tarsus is of the same compressed shape. In this genus the hind toe, in addition to its lobe, is connected towards its base with the membrane skirting the exterior edge of the inner toe, shewing in this respect an apparent approach to the *Pelicanidæ*. They possess a true tail, but it is very short, and concealed by the upper coverts, which are as long as the rectrices. Their wings are short and sharp pointed; and though they rarely fly, yet they can do so occasionally, both with swiftness and for a considerable time. In swimming, their broad and flattened body is immersed in the water, the head and neck only appearing above the surface. They dive continually, and with little apparent exertion; their progress beneath is very rapid, and they can stretch to a great distance without rising to breathe. They live upon fish, aquatic insects, and sometimes vegetables, but the first form the principal part of their support. During their Polar migration they retire to the fresh water lakes of the interior, where they breed close to the brink of the water, upon islets, or other suitable stations; but on the approach of winter repair again to the ocean. They lay but two eggs, and the young differ greatly from the adults in plumage, not acquiring maturity until after the third general moult. They are birds of a wild dis-

position, and their notes, or rather screams, are loud and melancholy in tone. The species hitherto discovered are three, all belonging to the Northern Hemisphere, and inhabiting the arctic regions of both worlds. Their flesh is (as might be expected) very fishy, as well as hard and coarse-grained, and their skins thick and tough. With respect to tracheal organization, neither the Divers nor the Grebes possess any peculiar enlargement or labyrinth.

NORTHERN DIVER.

COLYMBUS GLACIALIS, Linn.

PLATE LXXVI.

Colymbus glacialis, Linn. Syst. 1. 221. 5.—Gmel. Syst. 1. 588.—Lath. Ind. Orn. 2. 799. sp. 1.—Sabine, Frank. Jour. Ap. 703.—Shaw's Zool. 12. 233. pl. 61. young.—Flem. Br. Anim. 1. 132. sp. 211.—Faun. Amer. Boreal. 2. 474. No. 232.

Mergus major naevius, Briss. Orn. 6. 120. 6. t. 11. f. 2.

Colymbus maximus caudatus, Raii Syn. 125. A. 4.—Will. 259.

L'Imbrim ou Grand Plongeon, Buff. Ois. 8. 258. t. 22.—Id. Pl. Enl. 952. Plongeon Imbrim, Temm. Man. d'Ornith. 2. 910.—Lesson, Orn. Dict. 2. 359.

Els Taucher, Bechst. Naturg. Deut. 4. 595.

Greatest Speckled Diver or Loon, Albin's Br. Birds, 3. pl. 93.

Northern Diver, Penn. Br. Zool. 2. 523. No. 237. pl. 84. f. 2.—Arct. Zool. 2. 439.—Lath. 6. 337.—Lewin's Br. Birds, 6. pl. 226.—Mont. Orn. Dict. and Ap. to Sup.—Pult. Cat. Dorset, 17.—Bewick's Br. Birds, ed. 1826, p. t. 174.—Wils. Amer. Orn. 9. 84. pl. 74. f. 3.—Low's Faun. Orcad. 108.

Loon, Rennie's Mont. Orn. Dict. 307.

Colymbus immer, Linn. Syst. 1. 222. 6.—Gmel. Syst. 1. 588.—Lath. Ind. Orn. 800. sp. 2.

Mergus major, Briss. 6. 105. 1. t. 10. f. 1.

Colymbus maximus Gesneri, Raii Syn. 126. 8.—Will. 260.

Le Grand Plongeon, Buff. Ois. 8. 251.

Imber Diver, Penn. Br. Zool. 2. 524. No. 238. pl. 84. f.—Arct. Zool. 2. 440.—Lath. Syn. 6. 340.—Lewin's Br. Birds. 6. pl. 227.—Mont. Orn. Dict. 1. and Sup.

The Immer, Low's Faun. Orcad. 110.

PROVINCIAL—Great Doucker, Herdsman of the Sea, Ember Goose, Gunner, Loon, Naak.

Periodical
visitant.

UPON the Northumbrian and other northern coasts of England, and in the friths and bays of Scotland, and its isles, the Northern Diver, under its stages of immaturity, is a

common winter visitant. The state in which it is most frequently met with (speaking of the district in which I reside), is as the bird of the year; at this age answering to the Imber Diver of our authors (*Colymbus Immer*), and long supposed to be a distinct species. The next in number are birds of more than one year old, which have undergone, or are then undergoing, a second general moult, at which time the white spots upon the upper plumage begin to appear, and the head and neck to grow darker. The adult bird (*Colymbus glacialis* of authors), is comparatively but rarely met with, and out of more than twenty specimens which have at different times come under my observation, not more than two had attained maturity. Dr FLEMING also states, that in Shetland, where the young are numerous, few old birds occur, but that in the Orkneys both old and young abound during the winter. The Frith of Forth is also a favourite resort, to which they are attracted by the shoals of herring that reside there, and are even caught throughout the winter; and in this gulf some of the finest specimens I have seen of the adult bird have been obtained. It has not yet been ascertained whether any remain to breed here, as its congener the Red-throated species is known to do, the old birds all apparently retiring on the approach of spring to higher latitudes for this purpose. During summer they quit the ocean and inhabit the fresh-water lakes of the countries to which they migrate, and upon the shores of these lakes, and on the islets by which they are often studded over, the Divers form their nests and hatch their young. The nest is always close to the water's edge, so as to afford every facility to a bird whose motions on land are necessarily very constrained. The eggs, which never exceed two in number, are large, and of a deep oil-green colour, with variously sized spots of purplish-red. This species is widely distributed throughout the arctic regions of Europe and Asia, and is equally common in the corresponding latitudes of North America. Dr RICHARDSON, in the *Fauna Americæ Borealis*, describes it as

Nest, &c.

abounding on all the interior lakes of the Fur Countries, but not often seen either in the Arctic Seas or in Hudson's Bay.—Its principal food consists of fish, though it also devours aquatic insects, and TEMMINCK adds marine vegetables; but I never found any remains of the latter in the stomachs of those I have dissected. When inhabiting the ocean, the different species of herring (as I have before remarked), are a favourite food; other small fish, however, are not refused, and MONTAGU mentions one that was gorged with the spotted goby (*Gobius minutus*.) Its powers in swimming and diving are very great, particularly the latter, which it is constantly exercising, either in pursuit of prey or to escape observation; and its progress in this manner, from my own observations (corroborated by MONTAGU's statement respecting the Red-throated Diver), may be calculated at more than seven miles in the hour. It generally proceeds for a hundred or a hundred and fifty yards at a time without rising for respiration, which is then almost instantaneously accomplished by the mere exposure of the head and bill. In swimming, the body is not visible, being under water from its weight and flatness, and this situation enables it to dive with little apparent exertion, the depression of the head, and a slight propulsive effort with the feet, being sufficient for that purpose. The construction of the legs of this genus, and that of *Podiceps* (as I have before observed), is such as to disable them from walking; the backward position and confined action imposed by the close connexion of the tibia and femur with the body, caused by the covering of the integuments, and the attachment of a long process at the head of the tibial joint, necessarily producing this effect. In addition to this, the femoral or thigh-bone is remarkably short, and stands at a right angle with the body, thus giving an outward direction to the feet, and only allowing a sub-rotatory motion to the tibia, a mode of structure that, however beautifully adapted for the watery element, can be of little use upon land. The only method of progression, therefore,

which this bird possesses, when so situated, is that of shoving itself forward by striking the ground with its feet whilst the breast is resting upon it. This I have observed to be done by several that have been brought to me alive; and MONTAGU mentions the same in his account of an individual that was kept alive by him for some time, and which, contrary to the generally received opinion respecting this bird, soon grew very tame, and would come at the call for food. The Northern Diver rarely flies, as it rises with difficulty from the surface of the water, but when once upon wing, its flight is swift, and, Dr RICHARDSON observes, frequently in a circle round those who intrude upon its haunts. Its cries are frequently loud and melancholy in tone, and have been compared to the screams of a man in distress, but it also occasionally utters a low hoarse croak. Its plumage is very thick and close, with a tough skin, on which account it is much used by the natives of the northern countries to form comfortable articles of clothing. The flesh is hard, very dark coloured, and of a rank fishy flavour.

PLATE 76. Represents an Adult bird from a beautiful specimen in the collection of Sir WILLIAM JARDINE, Bart. that was killed in the Firth of Forth.

Bill black, paler towards the tip, nearly three inches long, much compressed, tapering, the upper mandible gently arched, the lower one channelled beneath, and deepest in the middle, the angle sloping gradually upwards to the point; tomia of both mandibles inflected. Head and neck black, glossed with purplish-green. Transverse bar upon the throat, middle neck collar, and sides of the upper part of breast, black, the feathers having raised white margins, which give those parts a striated appearance. The whole of the upper plumage glossy-black, each feather having two pure white spots, one on each side of the shaft near the tip, forming rows; those upon the scapulars and tertials large and quadrangular,

General
description.
Adult.

but becoming small and nearly round upon the lower part of the back and rump. Flanks and sides black, spotted with white. The rest of the under plumage white; the long axillary feathers the same, with a black stripe down their centres. Tail short and rounded, black, consisting of twenty feathers. Legs greyish-black, paler on the inside. Irides reddish-brown.

Young.
First year.

The young of the year (*Colymbus Immer*, Auctor.) differ strongly from the adults, as follows:—Head, and back part of the neck, deep-grey, tinged with clove-brown. Fore part of the neck, and the under plumage, pure white, except the flanks, which are clove-brown. Upper plumage deep clove-brown, the feathers being margined with ash-grey. Upper mandible of the bill deep-grey, the under one much paler.

Second
year.

After the second general moult, a darkish band appears on the middle of the neck, and the upper plumage becomes darker, losing the pale grey edges that distinguish the young of the year, and a few white spots begin to shew themselves.—The succeeding moult develops still more the bar and neck collar; and the head and neck become darker, or of a blackish-green, speckled upon the chin and throat with white. The upper plumage also acquires its glossy black lustre, with the accompanying quadrangular white spots. In the next change, or when the bird has passed its third year, the plumage is perfected.

Third
year.

BLACK-THROATED DIVER.

COLYMBUS ARCTICUS, Linn.

PLATE LXXVII.

- Colymbus arcticus*, Linn. Syst. 1. 221. 4.—Gmel. Syst. 1. 587.—Raii Syn. 125. 7.—Will. 259. t. 62.—Lath. Ind. Orn. 2. 800. sp. 4.—Shaw's Zool. 12. 236.—Flem. Br. Anim. 1. 133. sp. 212.—Faun. Amer. Boreal. 2. 475. No. 233.
- Mergus guttate nigro*, Briss. 6. 115. 4.
- Le Lumme ou Petit Plongeon de la Mer du Nord, Buff. Ois. 3. 261.
- Plongeon Lumme, ou à Gorge noir, Temm. Man. d'Ornith. 2. 913.—Lesson, Man. d'Orn. 2. 359.
- Der Polar Taucher, Bechst. Naturg. Deut. 4. 600.
- Black-throated Diver, Penn. Br. Zool. 527. No. 251. pl. 85.—Arct. Zool. 2. 466.—Edward's Glean. t. 146.—Lath. Syn. 6. 343. 4.—Lewin's Br. Birds, 6. pl. 229.—Mont. Orn. Dict. 1.—Bewick's Br. Birds, ed. 1826, p. t. 181.—Shaw's Zool. 12. 336., &c.
- Lumme, Rennie's Mont. Orn. Dict. 310.
- Lesser Imber, Bewick's Br. Birds. ed. 1826, p. t. 176, the young.

PROVINCIAL—Northern Doucker, Speckled Loon.

THE Black-throated Diver, in all its states of plumage, is of much less frequent occurrence than either the preceding or the following species, nor does it extend its migration so far to the south as they occasionally do, the instances of its capture beyond the Scottish boundary being extremely rare. It would appear, however, that individuals sometimes remain over the summer, and probably even breed, on the lakes of the Western and Northern Highlands, as I have seen a pair upon Loch Awe towards the end of June, but did not succeed in detecting their place of nidification. By some naturalists the Black and Red-throated Divers have been considered as one species, the former being the male, and the latter the female bird; and even Dr FLEMING, in his History of British Animals, seems to entertain a doubt on the subject, stating, in favour of such an opinion, that he once saw a bird of each species together (or at least what he imagined at a distance to be such), with a young one. The Red-throated bird it appears was secured, and proved to be a

Periodical
visitant.

of a plain oil-green, to which TEMMINCK, in his account, adds a few brown spots. It is, therefore, probable, that they are subject to some variation, from an immaculate to a spotted appearance. When fairly on wing, the Red-throated Diver flies with great strength and swiftness, and often at a considerable height; but, except to descend from the lakes to the sea, or to perform its migrations, it seldom thus exerts its pinions, trusting, in avoidance of danger, more to its powers in diving; and this it performs with as much ease as its congeners, remaining nearly as long submerged. MONTAGU, in the Supplement to his Ornithological Dictionary, under the article *Speckled Diver* (the young of this species), says that the distance between the place of immersion and emersion, in a bird which he pursued upon a canal, averaged from eighty to ninety yards; and that the rate of progress beneath the surface was between six and seven miles in the hour, whilst by swimming it did not exceed four and a-half. This species utters at times loud cries, and also hoarse croakings, which, having been observed by the natives to precede foul weather, have obtained for it the name of the *Roller* Goose in the Orkneys, where all the larger sea-fowl receive the appellation of *Goose*, and the smaller ones that of *Duck*.

General description. **PLATE 78*** represents the Adult Bird, killed in the spring. Adult bird. Bill blackish-grey, two inches and two-eighths in length from the forehead to the tip; the upper mandible straight, the lower one with a long ascending angle, giving to the bill the appearance of being slightly recurved; tomsia of both mandibles much inflected and very sharp. Sides of the head, chin, and sides of the neck deep smoke-grey. Crown of the head blackish-grey; the feathers being margined with smoke-grey. Nape and hind part of the neck glossy blackish-grey, margined with white.

* Sir WILLIAM JARDINE had a specimen of the *Roller* sent to him from Shetland, where it was killed, as a rare and curious *Duck*.

Fore part of the neck having a large patch of deep orange-brown. Lower part of the neck, and sides of the breast, white, with the central parts of the feathers blackish-grey.

Under plumage silvery white, except the flanks, which are deep clove-brown. Upper plumage deep clove-brown, with a slight glossy green reflection. Irides red. Outside of the legs greenish-grey; inside livid, or purplish-white, tinged with blue. Membrane of the toes the same.

PLATE 78. represents a Young Bird, of the natural size. Young Bird.

Forehead, crown, nape, and back part of the neck deep grey, finely streaked with greyish-white. Chin, throat, and under plumage, white. Flanks with large arrow-shaped dark grey spots. Upper plumage blackish-grey, inclining to clove-brown; the margins of the feathers being deeply bordered near their tips with white and smoke-grey. Quills deep clove-brown. Bill ash-grey, tinged with flesh-red. Outsides of the legs dark greenish-grey; inside surface and webs greenish-white. Irides reddish-brown.

After the second moult, the grey upon the head, cheeks, &c. acquires the tint of the adult; and a few red feathers are often found mixed with the white upon the fore part of the neck. The upper parts assume a deeper tint; the spots of white grow less, frequently changing to a yellowish-white; and as the bird advances to maturity entirely disappear.

FAMILY III.—ALCADÆ.

APPROACHING closely in form, and possessing natatorial powers fully equal to the *Colymbidæ*, the present family,

comprising the Guillemots (Genus *Uria*), Auks (Genus *Alca*), Penguins (Genus *Aptenodytes*), and other nearly allied groups, forms a second *typical* division of the Order *Natatores*. The greater part of the *Alcadæ* are distinguished by having only three palmated toes, and where a fourth or hind toe does exist, it is very small, and without a membrane; and also directed forwards, as in *Pelecanidæ*, thus leading the way to the connexion of the present with that aberrant family. We also find in them the shortness of wing, and consequent deficiency in power of flight (which seems in general most prevalent as aquatic habits become most decided), carried to the greatest extreme; the wings of the Penguins, and other nearly allied genera, being so short and imperfectly developed, as to be totally unfit for the purpose of flight, and adapted to act merely as fins, in aiding their progress beneath the water. As in the *Colymbidæ*, the legs of the birds of this family are placed far backwards, but at scarcely so great an angle with the body as in the former, in consequence of which they are enabled to sit in an upright attitude, resting equally on the foot and the whole length of the tarsus. They are all attached to the ocean, never resorting to fresh water, like the *Colymbi*. Many of the species that are able to fly, nestle on rocks and precipices, where they lay a single egg, of a conical form, a shape which prevents it from rolling away or moving (except within a circle of the diameter of its own length), on the bare rock where it is deposited. Some burrow in the light sandy soils of the small islands they frequent; and the Penguins, and other species, that have not the power of flight, incubate upon the shore immediately above high-water mark. The bill has a variety of form in the different genera, but commonly much compressed, and often grooved on its sides; exhibiting through all its modifications a beautiful illustration of the progressive series of affinities that unite the members with each other. The food of this family consists of fish, crustaceæ, and other marine animal productions.

GENUS URIA, *BRISS.* GUILLEMOT.

GENERIC CHARACTERS.

BILL of mean length, strait, strong, compressed, pointed, and cultrated. Upper mandible slightly arched towards the tip. Tomia intracted. Angle of the lower mandible gently ascending. Commissure nearly strait. Nostrils basal, lateral, concave, longitudinally cleft, and half covered by the feathers of the *antia*, or projecting side angles of the cranium.

Wings short, narrow, and acute. Tail of twelve or fourteen feathers; very short.

Legs situated at the back part of the abdomen; the tibiae concealed within the integuments. Tarsi short and compressed. Feet of three toes, all directed forwards, and palmed; outer and middle toes of equal length, the inner one much shorter. Claws falcate, and sharp-pointed; the middle one the longest.

In the form of the bill, in the birds of this genus, we trace a strong resemblance to that of the Divers, with which they were systematically associated by the earlier writers. They have, however, since been judiciously separated from the *Colymbidae*, not only on account of the different form of the foot, but for the greater affinity they bear to the rest of the *Alcidae*, in many other essential particulars. They are oceanic birds, and, unless from fortuitous circumstances, are never seen upon fresh water. They swim well, and dive with great ease; are able to remain long beneath the surface, and reach to a great distance. In this way, indeed, they obtain their prey, which consists of fish and marine insects. From the shortness of their wings, their flight is confined to small distances, and near to the surface of the water; it is,

however, tolerably rapid, being sustained by quickly repeated strokes of the pinions. They breed upon the ledges and precipitous summits of rocks overhanging the sea, laying one large conical egg, broad at one end, and very narrow at the other, it being prevented by this form from rolling off the shelving place of its deposit. From the backward position and confined movement of the legs, their progress on land is very limited; and they sit, in an upright position, upon the foot and whole length of the tarsus. Their plumage is very thick, close-set, and, in the living state, impervious to the action of the water. They are subject to a double moult, and their summer (or nuptial) dress differs in many respects from that of the winter.

FOOLISH GUILLEMOT.

URIA TROILE, Lath.

PLATE LXXIX.

- Uria Troile, Lath. Ind. Orn. 2. 796. sp. 1.—Steph. Shaw's Zool. 12. 244. pl. 62. f. 1.—Flem. Br. Anim. 1. 134. sp. 214.—Faun. Amer. Boreal 2. 477. No. 235.*
Colymbus Troile, Linn. Syst. 1. 220. 2.—Gmel. Syst. 1. 585.
Uria, Briss. 6. 70. 1. t. 6. f. 1.
Lomwia Hoieri, Raii Syn. 120. A. 4.—Will. 244. 5.
Le Guillemot, Buff. Ois. 9. 350.—Id. Pl. Enl. 903.
Guillemot à Capuchon, Temm. Man. d'Orn. 2. 921.—Lesson, Man. d'Orn. 2. 361.
Grand Guillemot, Cur. Reg. Anim. 1. 509.
Foolish Guillemot, Penn. Br. Zool. 2. 519. No. 234.—Arct. Zool. 2. 436.—Albin's Birds, 1. pl. 84.—Edwards' Glean. 359. f. 1.—Will. (Angl.) 324.—Lath. Syn. 6. 329. 1.—Id. Sup. 265.—Lewin's Br. Birds, 6. pl. 220.—Mont. Ornith. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, 2. p. t. 168.—Shaw's Zool. 12. 246. pl. 63.
Uria minor, Steph. Shaw's Zool. 12. 246. pl. 63.
Colymbus minor, Gmel. Syst. 1. 585.
Der Dumme Lumme, Bechst. Naturg. Deut. 4. 574.
Troillumme, Meyer, Tasschenb. Deut. 2. 445.
Lesser Guillemot, Penn. Br. Zool. 2. 520. No. 235. pl. 83.—Arct. Zool. Sup. 69.—Lath. Syn. 6. 332. 2.—Mont. Ornith. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, 2. p. t. 168.—Shaw's Zool. 12. 246. pl. 63.
PROVINCIAL—Guillem, Sea-Hen, Scout, Willock, Skiddaw, Murre, Lary, Strany, Tinkershire, Marrot, Scuttock, Murse, Lungy.

Young and
Old in winter
plumage.

THE above list of provincial appellations, bestowed upon the Guillemot in different parts of Britain, is a sufficient proof of its general distribution and frequent occurrence. It is in fact (at least during the summer or breeding season), to be found throughout the whole extent of our coasts, congregated in large bodies, wherever the shores offer a precipitous rocky barrier, or islands occur, affording fit places for its reproduction. Such are the ledges and clefts of rocks, where these birds incubate close to each other; making no nest, but each depositing its large solitary egg upon the bare and often sloping surface, along which it is secured from rolling by its conical shape, being very large at one end, and tapering rapidly towards the other; thus, when disturbed, merely describing a circle within its own length. The egg varies in colour and markings, but the prevailing tint is a fine verdigris-green, blotched with brownish-black. White varieties, without or with few spots, also frequently occur. Incubation lasts for a month, and when the young are first excluded, they are covered with a thick down, of a blackish-grey colour above, and white beneath. This gradually gives place to the regular plumage, and in the course of five or six weeks from the time of hatching, they are capable of taking to the water. During the time they remain upon the rock, the parents supply them plentifully with the young of the herring, and herring-sprats, which form the principal food of this and other species belonging to the *Alcæda*. Upon the Northumbrian coast these Guillemots breed in great numbers on the Fern Islands, a locality that has afforded me ample opportunities of attending to their economy, and watching the changes they undergo. They have here selected the summits of three fine isolated pillars, or masses of *whinstone* (trap-rock), that rise upwards of thirty feet above the level of the sea. Upon these the eggs are laid as close as possible, merely allowing room for the birds to sit upon them, which they do in an upright position. The appearance they make when thus seated in a dense mass, is curious, and the interest

Periodical
visitant.Incubation,
&c.

Up- Food.

is increased by the number of Kittiwakes (*Larus tridactylus*), which hover around, and which breed in the small side clefts, or on the projecting angles of the rock ; and by the nests of two or three Crested or Green Cormorants, which, from the unusual confidence they display in continuing to sit upon their eggs, even when overlooked from the opposite precipice at only a few yards distance, seem to be well aware of the security of the station they have chosen. The great body of the breeding birds arrives towards the end of March or the beginning of April, at which time most of them have acquired the perfect nuptial plumage. I have, however, obtained them much earlier, and when the white upon the throat was only giving place to the pitch-coloured black that distinguishes them till after the sexual intercourse. After the period of reproduction they leave the rocks, and betake themselves entirely to the ocean, when the old birds undergo the moult that assimilates them to the young, or *Lesser Guillemot* of authors. At this time they often lose so many of their quill-feathers, as to be totally incapable of flight ; but these are soon reproduced, and the colonies which had made the English coasts their summer quarters, retire to more southern latitudes to pass the winter months. Their place in this country is but sparingly supplied by a few stragglers from the great bodies that, being bred in still higher latitudes, make the friths of Scotland and its isles the limit of their equatorial migration. Much difference of opinion prevailed amongst ornithologists a few years ago, as to whether this bird in the summer plumage was not specifically distinct from that state of it in which, together with the young, it has been called the *Lesser Guillemot*. But the question seems now to be satisfactorily determined by the investigations that have been instituted, and the increased attention latterly bestowed upon the changes, that so many birds periodically undergo, and which prove their identity beyond a doubt. It may not, nevertheless, be amiss to glance at the reasons advanced by MONTAGU, in favour of this distinction, as how-

ever plausible they may at first sight appear, and (as proceeding from a practical ornithologist and keen observer) entitled to attention, I cannot consider them to be of the weight that many feel inclined to allow. In his observations upon the Foolish Guillemot, in the Appendix to his Ornithological Dictionary, he considers the old bird as never changing its plumage, but always retaining the pitch-brown head and neck; an opinion that led him into his subsequent error, and adopted from having once obtained specimens of the Guillemot in this state of plumage, in the latter part of January, upon the southern coast of England. That such a specimen should have been met with at this season, is no more than might naturally be expected, and what has also occurred to myself; as the assumption of the nuptial dress must always be dependent upon the time at which the bird had completed the duties of reproduction in the preceding season, and undergone the moult that immediately follows. This, from my own observations, frequently takes place as early as the end of June, or the beginning of July, and in such cases the other change will of course be comparatively early. I am, therefore, inclined to think, that what MONTAGU has described as the *young* of the Foolish Guillemot, was in fact an *old bird*, having acquired at an early period the white throat or winter plumage; as I possess at present a specimen (certainly an adult), that agrees with his in almost every respect, and the wings of which are nearly perfect, having only lost one or two of the quill-feathers. That a great proportion of the birds met with in the state of the supposed Lesser Guillemot, should be of inferior size, and deficient as to the perfect development of the bill and its terminal notches, is not extraordinary, and only in accordance with our observations on other species; but at the same time many individuals are also found in this plumage, with all the characteristics of the old Guillemot, both as to size, form, and length of bill, &c., particularly amongst that body that winters in the friths and sheltered bays of Scotland; and I have now in my collection specimens of the adult bird, in the

garb of MONTAGU's lesser species, that were taken upon our own coast. Another reason advanced by him for considering them distinct, is the abundance in which they are found in the white-throated state upon the coast of Scotland, during the winter, compared with their rarity upon the English coast; observing, at the same time, that the numerous colonies which make the English shores their summer or polar retreat, depart, after obeying the dictates of nature, to more southern climates. Now, this in fact is only consistent with the laws of migration, the birds that winter in Scotland being the summer inhabitants of much higher latitudes, to which they again retire upon the approach of spring, when they are succeeded by those which had migrated farther to the southward in the autumn of the preceding year. It may, indeed, appear striking, that they should not extend their migration in equal numbers along the English coast, but sufficient inducement for limiting their flight, will, I think, be found in a comparative view of the two countries. Scotland is deeply indented by its friths, salt-water lochs and bays, all of which abound with the herring species, the principal food of the Guillemot, and to be met with even in the depth of winter; and these are the situations it inhabits. The English coast, on the contrary, possesses no such attractions during winter for this piscivorous bird, as the herrings and sprats, which through the spring and summer approached the coast, then retire to the deeper parts of the ocean, where, in all probability, they are almost beyond the reach of these and other diving birds. Our English summer visitants retire to the Mediterranean, to the coasts of Italy, Sicily, &c. where they find an ample supply of even richer species of their favourite fish, as the Anchovy and Sardine. It may also be observed, that among the myriads that breed in the northern isles of Scotland, and still higher latitudes, none have been found during the period of incubation, or immediately preceding it, in the plumage assigned to the Lesser Guillemot; but all are distinguished by the pitch-coloured head and neck, the appropriate livery of the Foolish Guil-

lemot of our more southern coasts, and of which they display all the essential characters. MONTAGU'S error, therefore, with respect to this bird, and also the Razor Bill, is to be entirely attributed to his want of information regarding the change that takes place in the adults immediately after incubation. The Guillemot is of a squat and thick shape, and of great weight, in proportion to its dimensions. It swims with much buoyancy, and is an excellent diver, in which occupation the greater part of its existence is passed. It shews but little apprehension of danger, frequently admitting the approach of a boat within ear's length, from whence it has evidently obtained its trivial name. On account of the shortness of its wings, it rises with difficulty from the surface of the water, along which it skims for a short distance, but at a rapid rate, in consequence of the quickly-repeated strokes of its pinions. During the breeding season it is generally compelled to make a circuitous flight before it can attain a sufficient elevation to reach the ledge of the rock selected for that purpose.

PLATE 79. represents the Adult Bird, in the summer or breeding plumage.

Head, throat, and upper part of the neck, pitchy black; the feathers being small and very close set. From the posterior angle of the eye is a streak or line formed by the division of the feathers. Dorsal plumage greyish-black; in some tinged with brown. Tips of the secondaries, and the under plumage, white. Flanks streaked with blackish-grey. Legs brownish-black. Bill black; in length from the forehead to its tip one inch and three quarters. Inside of the mouth fine saffron-yellow. Throat, and sides of the neck, white; with a dark streak behind the eye. Crown of the head, nape and back part of the neck, greyish-black. In other respects the same as in summer.

General description.
Adult bird.
Summer plumage.

Winter plumage.

The bill of the younger birds is shorter, and the notch at the tip not so well defined. They are also generally inferior in size.

Young.

Fig. 2. represents the young when about a week old.

BLACK GUILLEMOT.

URIA GRYLLE, Lath.

PLATE LXXX.

Uria Grylle, Lath. Ind. Orn. 2. 797. sp. 2.—Faun. Amer. Boreal 2. 478. No. 237.

Colymbus Grylle, Linn. Syst. 1. 220. 1.—Gmel. Syst. 1. 584.

Uria scapularis, Steph. Shaw's Zool. 12. 250. pl. 64.

Cephus Grylle, Flem. Br. Anim. 134. No. 215.

Uria minor nigra, Columba Groenlandica, Briss. Orn. 6. 76. 3.—Raii Syn. 121. 6.—Will. 245.

Le Petit Guillemot noir, Buff. Ois. 9. 354.

Guillemot à miroir blanc, Temm. Man. d'Ornith. 2. 925.—Lesson, Man. d'Orn. 2. 361.

Der Schwarze Lumme, Bechst. Naturg. Deut. 4. 586.—Meyer, Tasschenb. Deut. 2. 446.

Greenland Dove, or Sea Turtle, Albin's Birds, 2 t. 80.—Will. (Angl.) 326. t. 98.

Black Guillemot, Penn. Br. Zool. 2. 521. No. 236.—Arct. Zool. 2. 437.—Lath. Syn. 6. 332. 3.—Id. Sup. 2. 265.—Lewin's Br. Birds, 6. pl. 221.—Mont. Ornith. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, 2. pt. 170.

—Steph. Shaw's Zool. 12. 250. pl. 64.—Faun. Amer. Boreal 2. 498. No. 237.—Low's Faun. Orcad. 104.

Black Scraber, Flem. Br. Anim. 1. 134. No. 215.

Guillemot, Rennie's Mont. Ornith. Dict. 233.

Uria minor striata, Briss. 6. 78. 4.

Uria Balthica, et Grylloides, Brunn. Nos. 114. 115. et 116.

Uria lacteola, Lath. Ind. Orn. 2. 798. sp. 3.

Colymbus lacteolus, Gmel. Syst. 1. 583.

Spotted Greenland Dove, Edwards' Glean. pl. 50.

Spotted Guillemot, Penn. Br. Zool. 2. pl. 83. No. 236.—Lath. Syn. 6. 334.

Mont. Orn. Dict.—Bewick's Br. Birds, ed. 1826, 172.

White Guillemot, Lath. Syn. 6. 335.

Young and
Old, in
Winter
plumage.

PROVINCIAL—Greenland Dove, Sea Turtle, Scraber, Toist, Taiste, Puffinet.

FROM the short description given by CUVIER of his genus *Cephus*, in the "Regne Animal," it is evident that the *Rotche*, or Little Auk of some of our writers (*Alca Alle*, Lath.), is there considered to be its typical representative, and not the Black

Guillemot. And this appears still more evident from the note at the bottom of the same page, in which (after advert-
ing to the figures of the Lesser and Spotted Guillemots in
the second volume of PENNANT's British Zoology, Plate 83.)
he observes, "Ces sont des Guillemots proprement dits; au
contraire l'Alca Alle, Penn. Br. Zool. 2. pl. 82. f. 1, et Al-
bin 1. pl. 85, *appartient aux Cephus*." Dr FLEMING, how-
ever, has appropriated this generic term to the Black Guille-
mot, making the distinction between it and *Uria* to consist
in the want of a terminal notch in the upper mandible; but
as this character does not appear to be constant, having seen
some specimens of the present bird with the notch, though
not so fully developed as in the Foolish Guillemot, I have
retained it in the situation where it was originally placed by
Dr LATHAM. In the northern parts of Scotland and its
Isles this is a numerous species, but becomes of rarer occur-
rence as we approach the English coast, where indeed it is
but occasionally met with; and although MONTAGU has men-
tioned it as resorting to the Farn Islands, and Mr STEPHENS
has repeated the same, I can safely assert that this has not
been the case for the last twenty-five or thirty years, having
been in the habit of visiting this group of islands almost an-
nually during that period; and, had it been a visitant, I feel
confident it could not have escaped my observation, or that
of the keepers of the light-house who reside there. It cer-
tainly breeds, though in a very small proportion, upon the
Isle of May, at the mouth of the Frith of Forth, but is not
found in large congregated numbers till we reach the vicinity
of the Orkney and Shetland Isles. In these parts it is resi-
dent throughout the year, never migrating to the same ex-
tent as the preceding species and the Razor-bill Auk. Its
habits are very similar to those of its congeners, and it is
rarely seen upon land, except for the purposes of incubation.
It breeds in the crevices or on the ledges of rocks, from
whence it can readily drop into the water or get upon wing,
and lays a single egg, of a greyish white, speckled with

Incuba-
tion, &c.

black and ash-grey. Its food consists of fish, crustaceæ, &c. but authors have not mentioned any particular kind that it prefers. The Black Guillemot is widely distributed in the Arctic Circle, and is met with in very high latitudes, inhabiting all the icy regions of Europe and North America. In the latter Continent, Dr RICHARDSON says, "it abounds in the Arctic seas and straits from Melville Island down to Hudson's Bay, and remains, though in diminished numbers, during winter in the pools of open water, which occur even in *high latitudes* among the floes of ice." I may here remark, that Dr RENNIE has inadvertently quoted the *Uria minor* of STEPHENS for this species, but which synonyme the General Zoology refers to the young and winter plumage of the Foolish Guillemot. In that work the Black Guillemot is described by the name of *Uria scapularis*.

PLATE 80. Fig. 1. represents this bird of the natural size, and in the summer plumage.

General
description.
Summer
Plumage.

Head, neck, dorsal and under plumage, of a sooty or brownish-black; the mantle and lower part of the back having a greenish gloss. Lesser wing-coverts next to the ridge of the wings, and the quill-feathers, velvet-black. Middle and greater coverts pure white. Bill black; one inch and a quarter long from the forehead to the tip. Inside of the gape vermilion-red. Legs and toes scarlet-red.

Fig. 2. is a bird of the former season, just commencing the vernal moult, from a specimen killed on the Northumbrian coast, towards the close of winter.

Winter
Plumage.

Crown of the head and nape of the neck black, the feathers being bordered with white. Neck, chin, and under plumage, white; intermixed with black, thus indicating the change that has commenced. Back and scapulars black, with the tips of the feathers white. Lower part of the rump white. Speculum, or white space up-

on the wing, spotted with brownish-black. Bill black.

Legs and toes red.

In winter, the old birds have the cheeks, throat, and all the under plumage, pure white. The crown of the head and the dorsal plumage black.

GENUS *MERGULUS*, RAY & VIEILL. ROTCHE.

GENERIC CHARACTERS.

BILL shorter than the head, thick, broader than high at the base; culmen arched; upper mandible indistinctly grooved; under one with the symphysis very short and oblique; tips of both mandibles notched. Commissure arched.

Nostrils lateral, round, situated at the base of the bill, and partly covered by the small feathers of the antæ.

Wings and tail short.

Legs abdominal, short; feet of three toes, all directed forwards, and united by a membrane.

In consequence of the distinct character exhibited in the form of the bill of the only known species of this genus (intermediate between the genera Guillemot and Auk, and with both of which it has been at different times classed, according to the views taken of its prevailing affinities by different systematists), it has latterly been established by VIEILLLOT as a type, and he has given to the genus the title of *Mergulus*, the name it before had from our countryman RAY, and which has also been adopted by Dr FLEMING, Mr STEPHENS, and others. It is a bird of the ocean, and a native of the Arctic Regions; and its habits in many respects resemble those of the Guillemots, Auk, and Starikis.

COMMON ROTCHÉ.

MERGULUS MELANOLEUCOS, Ray.

PLATE LXXXI.

- Mergulus melanoleucos*, *Raii* Syn. 123. A.—*Steph.* Shaw's Zool. 13. 34. pl. 3.—*Flem.* Br. Anim. 1. 135. No. 216.
Alca Alle, *Linn.* Syst. 1. 211. 5.—*Gmel.* Syst. 1. 554.—*Lath.* Ind. Orn. 2. 795. sp. 10.
Uria minor, *Bris.* Orn. 6. 73. 2.
Uria Alle, *Temm.* Man. d'Ornith. 2. 928.—*Faun.* Amer. Boreal. 2. 497. No. 238.
Le Petit Guillemot femelle, *Buff.* Pl. Enl. 917, but not his description.
Guillemot nain, *Temm.* Man. d'Orn. 2. 928.—*Lesson*, Man. d'Orn. 2. 360.
Der Kleine Alk, *Bechst.* Naturg. Deut. 4. 732.—*Meyer*, Taschenb. Deut. 2. 443.
Small Black and White Diver, *Will.* (Angl.) 343.—*Edwards'* Glean. t. 91.
Little Auk, *Br. Zool.* 2. 517. No. 233.—*Arct. Zool.* 2. 429.—*Lath.* Syn. 5. 327. 11.—*Lewin's* Br. Birds, 6. 223.—*Mont.* Orn. Dict. & Sup.—*Bewick's* Br. Birds, ed. 1826. pt. 408.—*Will.* Amer. Orn. 9. 94. pl. 74. f. 5.—*Low's* Faun. Orcad. 103.
Little Guillemot, *Faun.* Amer. Boreal. 4. 479 No. 238.
Common Sea Dove, *Shaw's* Zool. 13. 34. pl. 3.
Common Rotché, *Flem.* Br. Anim. 1. 135. No. 216.

IN the various accounts of voyages in the northern seas, this bird is mentioned as of very frequent occurrence, under the name of the *Rotché*; which appellation I have therefore adopted, in imitation of Dr FLEMING, as the one by which it is most generally known. It extends to very high latitudes, and abounds during summer in all the open spots of water amongst the floes and ice-fields of those desolate regions; where, however, it meets with a never-failing supply of the crustaceous and other small marine animals on which it subsists. Around the coasts of Greenland and Spitzbergen it is very numerous during the breeding season, depositing its solitary egg, of a pale bluish-green colour, upon the ledges of precipitous rocks, from whence it can easily either throw itself into the water, or take wing. It is also to be found very plentifully during the summer in the arctic seas of the American Continent, but migrates in winter to the

Periodical
visitant.

Food.

Incuba-
tion, &c.

coasts of the United States. With us it is only recognised as a winter visitant, although a few may probably breed upon the extreme rocky islands of the north of Scotland. Its occurrence in England is rare, and the greater number of specimens hitherto obtained have been found after severe storms, in a dead or dying state. It scarcely ever quits the ocean, except for the purpose of reproduction; swimming and diving there with as much facility as the rest of the *Alcedæ*. Its flight is rapid, but at a low elevation; its wings being small and narrow in proportion to the weight of the body. In its affinities it stands nearly intermediate between the Auks and the Guillemots; the bill being much shorter, stronger, and more convex than that of the latter, and not having the compressed shape, and distinct transverse lateral furrows which particularize that of the Auks. Like the last mentioned genera, it is subject to a double moult, and that indicative of the breeding season is analogous to the change ascertained to take place in the Foolish Guillemot and the Razor-Bill.

PLATE 81. Fig. 1. represents this bird of the natural size, in the summer plumage.

<p>Crown of the head, nape of the neck, dorsal plumage, wings and tail, glossy velvet-black. Sides of the head, throat, neck, and upper part of the breast, pitch-black. Side-edges of the long scapulars and tips of the secondaries white. Under plumage white. The flanks having the inner webs of the feathers black. Legs and toes blackish-brown, with a tinge of red. Bill black; from the forehead to the tip five-eighths of an inch long, thick, and convex; with both the mandibles notched, and with two faint transverse furrows upon the upper one.</p>	<p>General description. Summer Plumage.</p>
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<p>Fig. 2. The bird in winter plumage; which is common to both old and young, and differs from that of the summer in having the throat, the fore part and sides of the neck,</p>	<p>Winter Plumage.</p>
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white, mixed more or less with black. In other respects there is little or no difference.

GENUS ALCA, LINN. AUK.

GENERIC CHARACTERS.

BILL shorter than the head, nearly as deep as long, much compressed, cultrated; with both mandibles laterally sulcated; tip of the mandible strongly arched, and hooked; that of the under one obliquely truncated; angle deep, and ascending. Nostrils near the lower edge, and immediately behind the horny part of the bill; nearly hidden by the feathers of the *antæ*, or projecting side-angles of the forehead. Head narrow, and attenuated in front; with the *antæ* reaching as far as the nostrils.

Wings short and narrow; and in one species unequal for the purpose of flight. Tail short; of twelve or sixteen feathers.

Legs short, situated at the posterior part of the body, and having the tibiæ hidden within the integuments of the abdomen. Feet with three toes, all directed forwards, and webbed; outer toe longer than the inner, and nearly equal to the middle one. Claws hooked, and sharp; the middle one the largest and longest. Front of the tarsus and the toes unsulcated.

In this genus the bill becomes strongly compressed and hooked, losing that character of breadth at the base possessed by *Mergulus*, and by TEMMINCK's genus *Phalaris*. The lateral furrows of the bill are also more distinct, in which respect these birds approach to the succeeding genus *Fratercula* (Puffin). Their wings are very short and narrow; in one species, indeed, the Great Auk (*Alca impennis*), they are so imperfectly developed as to be totally unfit for

flight,—a character which indicates a close connexion with the true Penguins. They are strictly oceanic birds, and never leave the water, but for reproduction; and in powers of swimming and diving they are not inferior to any of the present family. They are (like the Guillemots) subject to a double moult, and the change is perfectly of a similar character to that which takes place in the last described bird.

GREAT AUK.

ALCA IMPENNIS, Linn.

PLATE LXXXII.

Alca impennis, Linn. Syst. 1. 210. 3.—Gmel. Syst. 1. 550.—Lath. Ind. Orn. 2. 791. sp. 1.—Shaw's Zool. 13. 51. pl. 6.—Flem. Brit. Anim. 1. 129. No. 203.

Alca major, Briss. Orn. 6. 85. pl. 7.

Penguin, Raii Syn. 113.—Will. 242. t. 65.

Le Grand Pingouin, Buff. Ois. 9. 393. t. 29.—Id. Pl. Enl. 367.

Pingouin Brachiptère, Temm. Man. d'Ornith. 2. 939.

Great Auk, Penn. Br. Zool. 2. 507. No. 229. pl. 81.—Arct. Zool. 2. 424.

—Lath. Syn. 5. 311. 1.—Levin's Br. Birds, 6. pl. 222.—Mont. Orn. Dict.

—Beauvill's Br. Birds, ed. 1826, 2. pt. 397.—Shaw's Zool. 13. 51. pl. 6.—

Flem. Br. Anim. 1. 127. No. 203.

THE visits of this curious species to the northern islands of Scotland appear to be very rare, many years frequently elapsing without a single individual being seen. Since the account given by Dr FLEMING of a bird taken alive at St Kilda, in 1822, and the one chased by Mr BULLOCK, during his tour to the northern isles, I am not aware of its having been met with, although many excursions connected with ornithological pursuits have been at different times made into those remote districts of the kingdom. It is found throughout the Arctic Seas in very high latitudes, although not in any considerable numbers, or congregated like the Razor-bill, Guillemot, and some others. It is frequent about the coasts of Norway and Iceland, and still more so around the icy shores of Greenland and Spitzbergen, where it breeds

Very rare
visitant.

Incuba-
tion, &c.

upon the rocks above the reach of the highest tides, or oftener in deep clefts, as more secure from observation. Its egg is described as being equal in size to that of the Swan, and of a yellowish-white, blotched and lined with brownish-black. The wings of this species (though possessing the usual number of quill-feathers, and being in other respects of perfect formation) are so short as to leave it totally incapable of flight: this inability seems, however, to be amply compensated by their power, as fins, to aid its progress beneath the surface, which, according to Mr BULLOCK, who ineffectually chased one of these birds in a *six-oared boat*, is of almost incredible swiftness. PENNANT remarks, that the Great Auk has been observed by seamen seldom to wander beyond soundings, and they are in the habit of taking their measures accordingly, conjecturing from its presence that land is not far distant. We might thus account for its occasional appearance only on the north of Scotland, as any migration from its nearest known haunt must necessarily be effected by swimming, and part of the channel between these points may be of a depth beyond what it likes to pass over. It undergoes a double moult, similar to that of the Razor-bill; and this interesting change was witnessed by Dr FLEMING in the individual before mentioned, which in the course of a few *days* lost the brownish-black that clothed the throat and sides of the neck when first caught, and acquired a set of white feathers in their place. Its powers of swimming and diving have been shewn to be very great, and Dr FLEMING further relates, that his bird, even with a long and heavy cord attached to its leg, swam under water with extraordinary speed.—It feeds principally on fish (though other writers add marine vegetables as forming part of its diet), and is said to be particularly fond of the Lump-fish (*Cyclopterus lumpus*), which is found in the vicinity of rocky coasts and islands throughout the southern seas.

Food.

PLATE 82. represents this bird, of a reduced size, and in the

summer plumage, from a specimen in the British Museum.

Length about three feet. Bill black; four inches and a quarter long; the mandibles having transverse oblique furrows. In front and around the eyes is a large patch of white. The rest of the head, the neck, and upper plumage, deep pitch-black. Tips of the secondaries white. Greater quills black; the longest not exceeding four inches. Under plumage white. Legs having the tarsi very short; and the feet blackish-brown.

General description.

Summer plumage.

In autumn, the cheeks, throat, fore part and sides of the neck, become white; and this plumage is retained till the advance of the following spring.

Winter plumage.

RAZOR-BILL AUK.

ALCA TORDA, Linn.

PLATE LXXXIII.

Alca Torda, Linn. 1. 210. 1.—*Gmel. Syst.* 1. 551.—*Briss. Orn.* 6. 892. t. 8. f. 1.

—*Lath. Ind. Orn.* 2. 793. sp. 5.—*Flem. Br. Anim.* 1. 130. No. 202.

Utania Torda, Leach in Cat. Br. Mus. 42.—*Steph. Shaw's Zool.* 13. 27.

Alca Hoieri, Raii Syn. 119. A. 3.—*Will.* 243. t. 64. 65.

Le Pingouin macroptère, Temm. Man. d'Orn. 2. 936.—*Lesson's Man. d'Orn.* 2. 365.

Tord Alk, Bechst. Naturg. Deut. 4. 711.—*Meyer*, Tasschenb. Deut. 2. 349.

Razor-bill Auk, or *Murre*, Penn. Br. Zool. 2. 509. No. 230. pl. 82.—*Edward*, Glean. pl. 358. f. 2.—*Lath. Syn.* 5. 319.—*Id. Sup.* 264.—*Lewin's*

Br. Birds, 6. pl. 224.—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*,

ed. 1826, 2. pt. 399.—*Flem. Br. Anim.* 1. 130. No. 204.

Common Razor-bill, *Shaw's Zool.* 13. 27.

Alca Pica, Linn. Syst. 1. 210. 2.—*Gmel. Syst.* 1. 551.

Utania Pica, Steph. Shaw's Zool. 13. 30.—*Leach*, Cat. Br. Mus. 42.

Alca minor, Briss 6. 923. t. 8. f. 2.

Mergus Bellonii, *Utania*, Raii Syn. 119. 2.—*Will.* 243. t. 64.

Le Petit Pingouin, Buff. Ois. 9. 396.

Black-billed Auk, Penn. Br. Zool. 2. 511. No. 231.—*Arct. Zool.* 2. 426 —

Lath. Syn. 5. 320. 6.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br. Birds*,

ed. 1826, 2. pt. 402.

White-throated Razor-bill, Steph. Shaw's Zool. 13. 30.

Young and
Old in
Winter
plumage.

PROVINCIAL—Auk, Murre, Marrot, Gurfel.

IN this species the wings are sufficiently developed for the purpose of flight, being nearly of the same proportionate

Periodical
visitant.

length as those of the Guillemot, and reaching, when closed, as far as the rump. Like that bird, its flight is rapid, and sustained by very quickly repeated strokes of the pinions, but (unless when making an effort to reach the ledge of rock on which it breeds) always at a low elevation, just clearing even the surface of the water. It is common upon the English coast during the summer in its black-headed or nuptial dress, congregating in the same localities, and frequently breeding in company with the Guillemot, which it resembles in general appearance, and also in the change of plumage it undergoes. By many writers, the young as well as the old birds, in the winter clothing, have been described as a distinct species, under the title of *Aka Pica*; and as MONTAGU decidedly favours this opinion in his Ornithological Dictionary, doubts are still entertained on the subject, although the subsequent investigations of TEMMINCK, FLEMING, and other distinguished practical ornithologists, have decidedly proved the fallacy of the opinion. The same suppositions that led MONTAGU astray with regard to the Guillemot, appear to have operated in the case of the Razor-bill, viz. that the *old birds* of both species always retained the black head and neck, and that the English and the southern part of the Scottish coast were the *limit* of the polar migration of these distinct species; for it is upon these assumptions that his arguments in favour of the separation of each species into two are founded. In the article "Auk, razor-billed," in the Supplement to his Ornithological Dictionary, he also seems to have repeated the mistake that I have previously adverted to under the Guillemot, viz. of describing as a young bird what appears to have been in reality an adult in a state of moult; his description exactly agreeing with specimens I have seen in that state; and at which period they are sometimes unable to fly, from casting their quill-feathers. But it generally happens that, before this change takes place, they have left our shores for more open parts of the ocean, or gone to more southern districts. In winter their place is

supplied in Scotland, and sparingly also along the English coast, from the colonies that breed in higher latitudes; and which birds, during the months of November, December, and January, are met with in the plumage of the supposed *Alca Pica*. Upon the approach of spring these return to the north, where they renew the *black* upon the head and neck, in which state all the *breeding birds* are found, and are then perfectly similar to those which, also returning from the south, make our shores their summer quarters. In disposition they are rather more wary than the Guillemots, and do not always admit of so near an approach. They dive and swim equally well with the latter, and their food is of the same nature, consisting principally of sprats, and other species of the genus *Clupea*. A few breed every year on the Fern Islands in company with the Guillemots, and, as the egg is very similar in size, shape and colour, it is not easily to be distinguished. The bill of the young bird when it first quits the rock is narrow, and shews scarcely any appearance of the transverse furrows which are so strongly marked in the old one. The white streaks that pass from the base of the bill to each eye are also faintly indicated, and do not acquire their purity of colour and well-defined form until after it has attained the spring or black-head plumage.

Food.
Incuba-
tion, &c.

PLATE 83. Fig. 1. Represents the bird of the natural size, and in the black-headed plumage.

Bill very hooked at the tip; the sides transversely furrowed; the middle furrow white. Streaks from the base of the upper mandible to the eyes pure white. Head, and upper part of the neck, brownish-black, becoming browner in tint as the summer advances. Upper plumage black. The secondary quills tipped with white, and forming a bar across the wings. Under plumage pure white. Tail black, wedge-shaped and pointed. Legs and toes black.

General
description.

Summer
plumage.

Fig. 2. In the winter plumage.

Winter
plumage.

The space between the bill and eyes, crown of the head, and nape of the neck, brownish-black, with a slight cinereous tinge. The white streak on each side from bill to eye, not so distinct as in the summer plumage, and in young birds scarcely visible. Ear-coverts, cheeks, sides of the neck and under plumage, white. Upper plumage black. Wings as in the summer.

Young.

In the young of the year the bill is black, and the furrows very slight, acquiring their marked character only as the bird gains age.

GENUS FRATERCULA, BRISS. PUFFIN.

GENERIC CHARACTERS.

BILL shorter than the head, arched, deeper than long, the base of it occupying the whole length of the face, very much compressed, having both mandibles transversely furrowed, and with their tips notched. Lower mandible entire, without *Gnathidia*; the keel projecting beyond the line of the chin; angle ascending. Corners of the mouth having a star-shaped dilatable skin. Margin of the base of the upper mandible thickened or swollen. Nostrils basal, placed close to the lower edge of the upper mandible in the form of a narrow slit.

Wings short, narrow, and acuminate. Tail very short, consisting of sixteen feathers.

Legs abdominal, short; the tarsi only free. Feet of three toes, palmated; outer toe nearly as long as the middle, and longer than the inner one. Claws hooked; that of the inner toe the most so, and very sharp; middle claw the longest.

In this genus the depth and lateral compression of the bill is carried to a still greater extent than in the genus *Alca*, with which its members were associated by many of the earlier systematists. Its construction is very different, the lower

mandible being without *Gnathidia*, and formed, as it were, of a single plate doubled together, the ridge or culmen, in the adults, presenting no appearance of suture. The base of the upper mandible is also on the same line with the forehead, the latter having no antia; and the nostrils are situated on the lower part of the smooth space of the beak, immediately in front of the basilar ridge. These birds are inhabitants of the arctic circle, penetrating to rather high latitudes; and in their habits and mode of life, bearing a strong resemblance to the preceding genera. They breed in burrows, or under hollow stones, and lay one egg. Nearly allied to this genus, and intermediate between it and the Auks, is the genus *Phalaris* of TEMMINCK, containing several species which were also formerly included in the Linnean genus *Alca*.

COMMON PUFFIN.

FRATERCULA ARCTICA, Steph.

PLATE LXXXIII.*

- Fratercula arctica*, Steph. Shaw's Zool. 13. 37. pl. 4. fig. 1.—*Flem. Br. Anim.* 1. 130. No. 205.
Alca arctica, Linn. Syst. 1. 211.—*Gmel. Syst.* 1. 549.—*Lath. Ind. Ornith.* 2. 792. sp. 3.
Alca labradora, *Gmel. Syst.* 1. 550.—*Lath. Ind. Ornith.* 2. 793. sp. 4.
Mormon Fratercula, *Temm. Man. d'Ornith.* 2. 933.
Fratercula, *Briss.* 6. 81. t. 6. f. 2.
Le Macareux, *Buff. Ois.* 9. 358. 26.
Macareux moine, *Temm. Man. d'Ornith.* 2. 933.—*Lesson, Man. d'Ornith.* 2. 364.
Der arktische Alk, *Bechst. Naturg. Deut.* 4. 723.
Graukehliger Alk, *Meyer, Tasschenb.* 2. 442.
Labrador Auk, *Lath. Syn.* 5. 318.—*Penn. Arct. Zool.* 2. 428.
Puffin, *Penn. Br. Zool.* 2. 512. No. 232.—*Arct. Zool.* 2. 427.—*Albin's Birds*, 2. pl. 78. 79.—*Edwards' Glean.* pl. 353. f. 1.—*Lath. Syn.* 5. 314.
—*Lewin's Br. Birds*, 6. pl. 225.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826, 2. p. t. 404.—*Pult. Cat. Dorset.* 17.—*Low's Faun. Orcad.* 101.
Common Coulter-neb, *Flem. Br. Anim.* 1. 130. No. 205.—*Rennie's Mont. Orn. Dict.* 103.
Arctic Puffin, *Steph. Shaw's Zool.* 13. 39.

PROVINCIAL.—Pope, Mullet, Coulterneb, Gulder-head, Bottle-nose, Marrot, Sea Parrot, Tammie Norie, Tommy-nody, Tommey, Bass Cock, Ailsa Cock, Cockandy.

Periodical
visitant.

ALTHOUGH the Puffin is found in very high latitudes, and its distribution through the arctic circle is extensive, it is only known to us as a summer visitant, and that from the south, making its first appearance, in the vicinity of its breeding stations, about the middle of April, and regularly departing between the 10th and 20th of August for the southern coasts of France, Spain, and other parts of Europe, where it passes the remainder of the year. It breeds in great numbers upon Priestholm Island, off the coast of Anglesea, on the Isle of Man, and most of the islands, indeed, of the English and Scottish coasts. Many resort to the Fern Islands, selecting such as are covered with a stratum of vegetable mould; and here they dig their own burrows, from there not being any rabbits to dispossess upon the particular islets they frequent. They commence this operation about the first week in May, and the hole is generally excavated to the depth of three feet, often in a curving direction, and occasionally with two entrances. When engaged in digging, which is principally performed by the males, they are sometimes so intent upon their work, as to admit of being taken by hand, and the same may also be done during incubation. At this period I have frequently obtained specimens, by thrusting my arm into the burrow, though at the risk of receiving a severe bite from the powerful and sharp-edged bill of the old bird. At the farther end of this hole the single egg is deposited, which in size nearly equals that of a Pullet, and, as PENNANT observes, varying in form: in some instances one end being acute, and in others both equally obtuse. Its colour, when first laid, is white (MONTAGU adds, sometimes spotted with pale cinereous, though I do not recollect having met with such), but it soon becomes soiled and dirty from its immediate contact with the earth, no materials being collected for a nest at the end of the burrow. The young are hatched after a month's incubation, and are then covered with a long blackish down above, which gradually gives place to the feathered plumage, so that, at the end of

Incuba-
tion. &c.

a month or five weeks, they are able to quit the burrow, and follow their parents to the open sea. Soon after this time, or about the second week in August, the whole leave our coasts, commencing their equatorial migration. At an early age, the bill of this bird is small and narrow, scarcely exceeding that of the young Razor-bill at the same period of life; and not till after the second year does this member acquire its full development, both as to depth, colour, and its transverse furrows. In SHAW's General Zoology, Mr STEPHENS has given a figure, entitled the *Northern Puffin*, from a specimen ticketed *Fratercula glacialis* by Dr LEACH, in the collection of the British Museum, that was obtained during Captain Ross's expedition to the northern regions, and which TEMMINCK also seems to think may be a distinct species. Now, as the difference between this and our own is stated to be in the superior size of the bill (the plumage being precisely similar), I feel some hesitation in allowing it this rank, as I have found the bills of different individuals on our coasts to vary much in depth and curvature, which circumstance may be observed in the present plate, containing the figures of two birds killed off the Fern Islands; in the one, which was taken in its burrow, the bill measures one inch and a-half in depth, in the other scarcely one inch. In length they are nearly equal, by which the mandibles of the larger-billed bird are made to appear much more convex than the other; and in the former, the keel of the lower mandible is also very strong and arched; in fact, this specimen seems to possess the precise characters and relative proportion of bill of the *Northern Puffin*, figured by Mr STEPHENS. I may here add, that I have often obtained specimens with the bill of an intermediate size, which leads me to conclude, that this member does not obtain its full strength and dimensions till after the second or third year. On the water the Puffin is a more wary bird than the Guillemot, generally taking wing or diving before a boat can approach within range of gun-shot. It flies rapidly, but not to any

great distance at once, being obliged to exert its short and narrow wings to their utmost power for the support of its body, which is heavy in proportion to its dimensions. It feeds principally upon young sprats, though other small fish and crustaceæ are occasionally devoured. In diving it displays equal expertness with the others of the present family. It is a bird of neat appearance, and its bill, though large, is richly coloured, and contrasts well with the black and white of its plumage *. From the shape of the bill, and corresponding bulk of the head, it seems to have obtained the greater part of the provincial synonyms above quoted.

PLATE 83. * Fig. 1. Represents an old male bird of the natural size.

General
description.

Male Bird.

Crown of the head, upper parts of the body, and collar round the neck, glossy black. Cheeks and throat pearl-grey, darkest towards the base of the lower mandible. Under plumage pure white. Legs orange-red. Bill one inch and a half in depth, bluish-grey at the base, the middle part orange-red, and the tip bright red; the upper mandible having three, and the lower one two, distinct furrows. The horny appendages to the eyelids pearl-grey; that upon the upper lid triangular, on the lower lid oblong.

Fig. 2. Is supposed to be a bird of a year old.

Bill scarcely one inch in depth, and with the furrows not so distinctly marked as in Fig. 1. Two in this state, exactly alike as to their bills and legs, were killed near the Fern Islands in June 1827.

Young. Fig. 3. Is the young bird of a week old, covered with a long sooty black down.

* White varieties occasionally occur. Mr NEILL informs me, that he lately saw one alive in the possession of a gentleman who had obtained it when young the preceding year, with only two or three black feathers upon the back, the rest of the plumage being pure white.

FAMILY IV.—PELECANIDÆ.

THE Pelecanidæ, which form the fourth and an aberrant division of the *Natatores*, are distinguished from the preceding and other families, by the peculiar form of their feet, which consist of four toes, all united by a continuous membrane, the hind toe being articulated upon the inner part of the tarsus, and standing at an angle with it, or rather directed to the front. The bill, in the various genera, is strong in form, and commonly longer than the head: in many the tip is bent downwards, and armed with a strong hook; in others (where a nearer approach is made to the members of neighbouring families) it is strait and sharp-pointed, as exemplified in the genus *Phaëton*, which closely connects the present with the succeeding family of the *Laridæ*, through the intervention of the Terns. In an aberrant group of this family, we find also an obvious approximation, both in external appearance and habits, to the *Vulturidæ* and *Falconidæ*, thus forming the link between the raptorial and natatorial orders. Such are the birds belonging to the genus *Tachypetes*, represented by the *Frigate Birds*, whose form and habits assimilate them so much to the larger rapacious kind, as to have induced LINNÆUS to bestow the specific title of *Aquilus* on the only species known by him. In this genus the wings are extraordinarily developed, and are equal to the most distant and protracted flights; the tail is also long and forked, and their legs are very short, with the tarsi feathered, like many of the raptorial order. Their feet are small, in comparison with others of the family, and the membranes connecting the toes are so much curtailed, as to be inadequate to the task of swimming. They live almost entirely in the air, and take their prey upon the wing, not by precipitating themselves upon it in the water, like the Gannets, Terns,

less, but by poisoning upon the flying fish as they spring from the sea, or by harrowing other aquatic birds till they disgorge their prey, which is caught by these as it reaches the surface of the water. In the genera that approach nearer in their habits to the typical swimmers, we find a corresponding modification of form: thus the members of the genus *Cormorant* (well known for their aquatic powers) have the body long and flattened, and the wings, although equal to vigorous flight, much shorter than the genera above mentioned, or those which connect the *Pelecanidae* with the succeeding family of the *Laridae*. Their legs, also, are placed nearer to the extremity of the body, and the tibiae have not the same freedom of action, in consequence of which, they are compelled both to sit and walk almost in a perpendicular position. All these prey beneath the surface of the water, being endowed with the power of diving to an extent little short of the typical *Alcidae* and *Colymbidae*. In Britain we possess two forms of this family, viz. genus *Phalacrocorax* and genus *Sula*.

GENUS PHALACROCORAX, BRISS. CORMORANT.

GENERIC CHARACTERS.

BILL generally longer than the head, strait, strong, hard, slightly compressed; having the upper mandible rounded above, terminating in a powerful hook, and furrowed laterally from the base, as far as the dertrum or tip. Lower mandible with the terminating nail distinct, its tip compressed and truncated. Tomia of the lower mandible in-tracted, and covered by those of the upper one. Nostrils basal, concealed. Face naked. Swallow and throat dilatable.

Wings of mean length, having the first quill-feather shorter

than the second, which is the longest in the wing. Tail rounded, of mean length, stiff and elastic.

Legs abdominal, short, strong. Feet of four toes, all connected by a membrane. Outer toe the longest, the others gradually shortening to the hinder one. Tarsi reticulated. The upper part of the toes scutellated.

In no genus of the earlier writers has the necessity of division been more apparent than in *Pelecanus*, which, in addition to its typical representatives, contained the Gannets and Cormorants, both of them groups distinguished by prominent characters, in habits as well as in form. This separation has been effected by CUVIER, TEMMINCK, MEYER, and other eminent ornithologists, under various generic titles; but as priority of application is entitled to the preference, I have retained that of *Phalacrocorax*, originally given to the present genus by BRISSON, and adopted by Dr FLEMING and some others. In form the Cormorants approach nearer to the natatorial groups already described, than the rest of this family, and (like the *Alcedæ* and *Colymbidæ*) their legs are placed far backwards, having the tibiæ only partially free. Their wings are also much shorter than in the succeeding genera, indicating a difference in habits and mode of living. They are excellent divers, pursuing their course beneath the surface with great celerity, and thus securing their prey, which consists entirely of fish. In swimming, the body is deeply immersed, scarcely more than the head and upper part of the neck being visible. Upon land they sit in an erect posture, and from the partial freedom of the tibial joint, are able to walk with less difficulty than the diving birds of the preceding two families; and in which action they are also materially assisted by the support they obtain from the stiff, though elastic, feathers of the tail. They possess an unexpected power of grasping with the toes, and, in common with other members of the family, frequently not only perch, but build their nests upon trees, in which respect an affinity

to different tribes of the terrestrial orders is observable. Their flight, though heavy, is direct and strong. They are subject to a double moult, but the nuptial change is generally confined to the regions of the head and thighs. The plumage of both sexes is alike.

COMMON CORMORANT.

PHALACROCORAX CARBO, Steph. *Flem.*

PLATE LXXXIV.

- Phalacrocorax Carbo*, Steph. Shaw's Zool. 13. 76. pl. 10.—*Flem. Br. Anim.* 1. 117. No. 169.
Pelecanus Carbo, Linn. Syst. 1. 216. 3.—*Gmel. Syst.* 1. 573.—*Lath. Ind. Orn.* 2. 886. sp. 14.
Carbo cormoranus, Temm. Man. d'Ornith. 2. 894.
Corvus aquaticus, Rati Syn. 122. A.—*Will.* 240. pl. 63.
Phalacrocorax, Bris. 6. 511. t. 45.
Le Cormoran, Buff. Ois. 8. 310. t. 28.—*Id. Pl. FnL* 927.
Grand Cormoran, Temm. Man. 2. 894.—*Lesson*, Man. 2. 373.
Der Schwarze Pelikan, Bechst. Naturg. Deut. 4. 750.
Cormorant or Corvorant, Will. (Angl.) 329. t. 63.—*Penn. Br. Zool.* 2. 606. No. 291.—*Albin's Birds*, 2. t. 81.—*Lath. Syn.* 6. 593.—*Levin's Br. Birds*, 6. 263.—*Mont. Ornith. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826, p. t. 379.—*Low's Faun. Orcad.* 146.
Common Cormorant, Shaw's Zool. 13. pl. 76. pl. 10.—*Flem. Br. Anim.* 1. 117. No. 169.
Crested Corvorant, *Bewick's Br. Birds*, ed. 1826, p. t. 385.

PROVINCIAL—Great Black Cormorant, Cole Goose, Skart, Brongie.

ALTHOUGH the Cormorant appears to have been always common upon our coasts, and of known extensive distribution throughout the maritime districts of the north of Europe, it is only within the last few years that the changes of plumage to which it is subject, have been perfectly investigated, and that the mistakes of earlier writers have been corrected by the observations of MONTAGU, TEMMINCK, and other eminent ornithologists. It has been described by several as a distinct species when in its summer or nuptial plumage. Some have considered this state as indicative only of the male bird, whilst others have regarded it as a common or

an accidental variety. It is now, however, well ascertained, that, on the approach of spring, *both sexes* invariably undergo the change that assimilates them to the *Crested Cormorant* of BEWICK and others, and which garb they retain till after reproduction has been effected. This I have had repeated opportunities of verifying from my own observation, and by the dissection of many specimens from a colony that annually breed at the Fern Islands on the Northumbrian coast. This bird is perhaps generally looked on with dislike, from an association of ideas produced by the extravagant descriptions of different authors, and from the prominent part it is made to perform in the sublime poem of "Paradise Lost." As naturalists, however, and believers in the unerring wisdom so greatly and wonderfully displayed throughout the animated creation, we are not to judge of its qualities from the exaggerations of fancy, but to consider whether its powers are not fitly and beautifully adapted to the place it is destined to fill in the great chain of the universe. Viewed in this, the only true light, we shall find much to admire, since its instincts and habits are in such perfect accordance with, and so ably support, the economy of its being. So far, indeed, from possessing the bad qualities attributed to it, it seems, from the testimony of MONTAGU*, to be endowed with a nature directly the reverse; for he states, that he found it extremely docile, of a grateful disposition, and without the smallest tincture of a savage or vindictive spirit. This character I can confirm, from having kept it in a domesticated state; and the very fact, indeed, of these birds having been trained to fish, as many of the *Falconidæ* are to fowl, is a further proof of its docility and tractable nature. Like other piscivorous birds, its digestion is rapid, and its consumption of food consequently great, but the epithet of glutton, and the accusation of unrelenting cruelty, are no more applicable to it, than to any other bird destined by its Creator to prey

* See Supplement to the Ornith. Dict., article *Cormorant*, where an interesting account of its manners is given.

on living matter. In [Britain, where it is numerous and widely dispersed, the Cormorant breeds upon rocky shores and islands, selecting the *summits* of the rocks for the situation of the nest, and not (like the Green Cormorant) the clefts or ledges. In some countries it breeds upon trees, possessing, as I have before observed, the power of grasping

Nest, &c. firmly with its feet. Upon the Fern Islands, its nest is composed entirely of a mass of sea-weed, frequently heaped up to the height of two feet, in which are deposited from three to five eggs, of a pale bluish-white, with a rough surface, from the unequal deposition of the calcareous matter. The young, when first hatched, are quite naked and very ugly, the skin being of a purplish-black; this in six or seven days becomes clothed with a thick black down, but the feathered plumage is not perfected in less than five or six weeks. Instinct, that powerful substitute for reason, is nowhere more beautifully exemplified than in the young of this bird; for I have repeatedly found, that, upon being thrown into the sea, even when scarcely half-fledged, they immediately plunge beneath the surface, and endeavour to escape by diving. This they will do to a great distance, using their imperfect wings, and pursuing their submarine flight in the same manner, and with almost as much effect, as their parents. When unfledged in the nest, the young of this and the following species, if alarmed by an approach, raise the head and neck to the full stretch, at the same time gaping wide, and vibrating in a curious manner the loose skin of the neck and throat, accompanied by a constant and querulous cry. In winter, Cormorants are frequently seen in our rivers and lakes at a considerable distance from the sea, where they occasionally perch and roost in such trees as grow upon the immediate

Food. banks. They feed entirely on fish, which they obtain by active pursuit beneath the surface of the water, and having the gullet very large and dilatable, they are enabled to swallow those of considerable size. The prey is killed by being squeezed in their powerful and hooked bill, and always swallowed

head foremost; and should the fish happen to have been awkwardly captured for this operation, it is tossed into the air, and in descending caught in a more favourable position. In swimming, the body of this bird is almost entirely submerged, the head and part of the neck only being visible. MONTAGU also observes, that when in the act of looking for its prey, it always carries the head under water, being able thus to discover it at a greater distance than if the eyes were kept above the surface, which is generally in some degree agitated. It may frequently be observed standing upon the shore or rocks, with the wings expanded, for several minutes at a time, in order to dry the feathers and bring them to the proper state for preening, as they are apt to become wet from long continued diving, causing the gradual loss of the oily matter that partly defends them from the action of the water. This species is a native of the new as well as of the ancient continent, being found in various parts of North America; it is also met with in Northern Asia, and in Europe its distribution is wide, extending to high latitudes. The bronchi in this bird are of great length, and of equal diameter, issuing from the lower larynx, which is formed of a single cartilaginous ring. Immediately below the glottis, the tube is enlarged, but soon contracts, and remains of the same diameter through the rest of its course.

PLATE 84. Represents the Adult bird in summer plumage, rather less than the natural size.

Upon the head and upper part of the neck are silky hair-like white feathers. The gorget and the patch upon the thighs pure white. Semi-erect occipital crest; lower

General
description.

* It appears probable that, under favourable circumstances, the Cormorant would breed in a reclaimed or domesticated state, as Mr NEILL informs me, that one in his possession laid two eggs in April last (1832), and shewed an inclination to incubate. The eggs having been accidentally broken, the fact of their impregnation remains doubtful. He adds, that they roost with the poultry when they find the hen-house door open, keeping the cocks and hens at a respectful distance. The *Solan* never aspires in that way.

Summer
plumage.

part of the neck, breast, mesial line, and lower part of the back, and the whole of the under plumage glossy bluish-black; in some lights shewing a green reflection. Shoulders, scapulars, and greater part of the wing-coverts bronzed hair-brown, each feather surrounded by a zone of glossy velvet-black. Quills and tail black; the feathers of the latter having their shafts stiff and elastic, and the webs coarse and harsh. The end of the tail frequently worn by its use as a prop to support the body. Bill three inches long from the forehead to the tip; the upper mandible blackish-grey; the base of the lower one yellowish. Guttural dilatable skin black, with minute specks of king's-yellow. Naked skin around the eyes greenish-yellow. Irides bright green. Legs and toes black; the outer toe, including its nail, four inches in length.

Winter
plumage.

In winter, or after the autumnal moult, the occipital crest is wanting, and the head and upper part of the neck have only a few minute specks of white, almost imperceptible. Throat-collar greyish-white. In other respects as in the plumage of summer.—The young of the

Young.

year have the head and neck brownish-black, slightly glossed with purplish-green. Throat-collar faintly indicated by a lighter tint. Under plumage inclining to brocoli-brown, mixed with greyish-white. Mantle, scapulars, and wing-coverts greyish-black, having the feathers bordered with blackish-brown. Bill pale hair-brown.

CRESTED SHAG, OR GREEN CORMORANT.

PHALACROCORAX CRISTATUS, Steph., Flem.

PLATE LXXXVI.

Phalacrocorax cristatus, Steph. Shaw's Zool. 13. 83.—Flem. Br. Anim. 118. No. 171.

Phalacrocorax Graculus, Steph. Shaw's Zool. 2. 887. sp. 15.

Pelecanus Graculus, Lath. Ind. Orn. 2. 887. sp. 15.

Corvus aquaticus minor, Raii Syn. 123. A.

Carbo cristatus, Temm. Man. d'Ornith. 2. 900.

Cormoran Largup, Temm. Man. 2. 900.

Shag or Crane, *Will.* (Angl.) 330. pl. 62.—*Penn. Br. Zool.* 2. 610. No. 292. pl. 182.—*Arct. Zool.* 2. 508.—*Lath. Syn.* 6. 598.—*Lewin's Br. Birds.* 7. 264.—*Mont. Orn. Dict. & Sup.*—*Bewick's Br. Birds.* ed. 1826, 2. p. t. 337. Crested Shag, *Penn. Arct. Zool.* 2. 585.—*Lath. Syn.* 6. 600.—*Mont. Orn. Dict. and Sup.*—*Flem. Br. Anim.* 118. No. 117. Shag Cormorant, *Steph. Shaw's Zool.* 13. 82. Crested Cormorant, *Steph. Shaw's Zool.* 13. 83.

PROVINCIAL—Green Scout, Green Gormer.

AFTER an examination of a great number of specimens, and diligent inquiries upon various parts of the coasts of England and Scotland, I have not been able either to meet with or hear of a single bird that can satisfactorily be referred to TEMMINCK'S *Carbo Graculus*. This he considers identical with the *Pelecanus Graculus* of LINNEUS and LATHAM, although his description does not coincide with that of the latter, nor with the *Shag* of our British ornithologists, which has always been supposed to represent the *Graculus* of the different systems, but which, from the descriptions given of it in its various states of age and plumage, undoubtedly belongs to TEMMINCK'S other species, the *Carbo cristatus*, or "Cormoran Largup." This is evident from the stated dimensions of the bill, as well as colour of the adults during the summer plumage; for all our writers agree in describing the head and neck of the British Shag as being of a deep glossy black-green, without any intermixture of white feathers, or any patch of the same colour upon the thighs. Now, both of these are given by TEMMINCK as distinctive characters of his *Carbo Graculus*, which bird appears to resemble the Common Cormorant in every respect, but that of inferior size, shorter bill, and twelve instead of fourteen tail-feathers, in which latter point it agrees with the Crested species. Presuming upon TEMMINCK'S usual correctness, and that his *Graculus* is an actually existing species, I have adopted his specific name of *Cristatus* for the bird now under consideration, and well known as the *Shag* and *Crested Shag* of our native authors. Dr FLEMING, it ought to be observed, retains both the *Graculus* and *Cristatus* in his *History of British Animals*, and even adds the epithet of "Common" to the former; but upon what authority he does so, I am at

a loss to conjecture. I cannot but think he has been led into some mistake with regard to the species, especially as he has quoted the *Corvus aquaticus minor* of WILLOUGHBY and RAY as a synonym, the description of which clearly refers to the Crested or Green Cormorant. I may also add, that the *Pelecanus cristatus* of LATHAM'S Index Ornithologicus, quoted by TEMMINCK as a synonym of his "Cormoran Largup," seems to refer to some other species, probably the *Carbo Dilophus* of RICHARDSON and SWAINSON, mentioned in the Fauna Americana Borealis, as the crest is thus described; "Pennæ ad latera capitis utrinque elongatæ, cristam efformantes," a form and position totally unlike that of the Crested Shag. In the descriptions of this species given by our writers, much difference will be found in the details, but these may all be traced to the age, or particular state of plumage of the individual when described. In its perfect or crested state, that is, with the frontal tuft curving forwards, it seems to have come but rarely under observation, which will not appear extraordinary, when we consider the short time that the bird possesses it, viz. from about the month of February till nearly the middle of May. Upon the rocky shores and islands of England and Scotland, the Crested Shag is a common species, breeding in the clefts and on the ledges of perpendicular cliffs.—Its nest is composed of a mass of sea-weed, chiefly of the *Fucus vesiculosus*, and the eggs, four or five in number, are smaller, but similar in outward appearance to those of the preceding species. The young are also excluded in a naked state, but soon become covered with a thick black down, that is gradually hidden by the regular plumage. As nestlings, they have the same habit, when alarmed, of gaping with outstretched necks, and violently shaking the loose dilatable skin of the throat. This bird differs from the larger species in never frequenting fresh water lakes or rivers; residing constantly upon the sea-coast.—It preys upon various kinds of fish, which are obtained by diving, in which faculty it is equally quick and expert with the Common Cormorant.

Nest, &c.

Food.

PLATE 86. Represents a Male of this species (killed near the Fern Islands) in the nuptial plumage, or with the frontal crest fully developed. Natural size.

Head, neck, lower part of the back, and under plumage, fine silky blackish-green. Upon the forehead is a tuft of blackish-green elongated feathers, upwards of two inches long, and curving forwards. Mantle, scapulars, and wing-coverts deep-black, bronzed green, each feather being surrounded by a band of velvet-black. Tail consisting of twelve feathers, scarcely six inches long, black, with the shafts strong and elastic; the webs coarse, and generally much worn at their tips. Legs and toes black. Guttural skin and corners of the mouth gamboge-yellow, the former having black specks. Bill black; two inches and three-eighths in length from the forehead to the tip.

General
description.

Summer
plumage.

In autumn, and the early part of winter, it is destitute of the frontal elongated feathers, but in other respects the plumage is the same as in summer. Both sexes are nearly alike.—The young of the year have the head and neck of a greyish-black, tinged with green, and the under parts are more or less mixed with greyish-white. The upper plumage inclines to greenish-brown, and the zone that margins each feather is broader than in the adults.

Young.

GENUS SULA, BRISS. GANNET.

GENERIC CHARACTERS.

BILL longer than the head, thick, strong, strait, acuminate, compressed towards the point, with the dertrum slightly convex. Mandibles equal; the upper one laterally sulcated from the base to the tip, and with a hinge near the posterior part, making it to appear as if composed of five separate pieces. Culmen rounded. Lower mandible having the

angle rather prominent, gently ascending to the tip. Chin angle narrow and long, filled with a naked dilatable skin. Face naked. Tomia intracted, obliquely and unequally serrated. Nostrils basal; concealed from view. Tongue very small.

Wings long and acuminate. Tail graduated.

Legs abdominal; tarsi short; feet of four toes, all connected by a membrane; the middle and outer toes of nearly equal length. Middle claw having its inner edge dilated and toothed.

The Gannets are strongly distinguishable from the Cormorants by the shape of the bill, by their lengthened wings and lighter form of body, and not less so by the dissimilarity of their faculties and habits. For, instead of the natatorial and diving qualities possessed by the latter in such perfection, and on the constant exercise of which they depend for subsistence, the former are never known to dive, and are but seldom observed upon the water, where, when they happen to alight, they seem rather to float than to use any exertion in swimming. They have, on the contrary, a great and unwearied power of flight, and are almost continually upon wing. They prey upon such fish as occasionally swim near to the surface of the water, chiefly of the herring genus, and upon which they precipitate themselves as they soar in the air. During the season of reproduction they collect in large bodies, and inhabit the most precipitous rocks that overhang the ocean. They lay but one egg, and the young are nearly four years in acquiring maturity, undergoing during that period a great annual variation in the colours of the plumage. The legs, in this genus, are not placed so far backwards as in the preceding one; they walk, consequently, with the body in a horizontal and not in an upright position. The members of the genus are not numerous, and only one inhabits Europe, the Solan Gannet (*Sula bassana*), well known in the northern parts of this kingdom as a regular summer visitant.

SOLAN GANNET.

SULA BASSANA, Briss.

PLATES LXXXVI*. LXXXVII.

- Sula bassana*, *Briss.* Orn. 6. 503. pl. 44.—*Steph.* Shaw's Zool. 13. 100. pl. 11.—*Flem.* Br. Anim. 1. 118. No. 192.
Sula Hoiëri, *Raii* Syn. 123.
Anser bassanus, *Raii* Syn. 122. A.—*Will.* 247. t. 63.
Pelecanus bassanus, *Linn.* Syst. 1. 219.—*Gmel.* Syst. 1. 577.—*Lath.* Ind. Orn. 2. 891. sp. 26.
Fou de Bassan, *Buff.* Ois. 8. 376.—*Id.* Pl. Enl. 278.
Fou blanc ou de Bassan, *Temm.* Man. d'Orn. 2. 905.
Der Bassanische Pelikan, *Bechst.* Naturg. Deut. 4. 765.
The Gannet, *Br.* Zool. 2. 612. No. 293. pl. 103.—*Arct.* Zool. 2. No. 510.
—*Lath.* Syn. 6. 608. 25.—*Lewin's* Br. Birds, 6. pl. 265.—*Mont.* Orn. Dict. and Sup.—*Mont.* in *Wern.* Trans. 1. 176.—*Bewick's* Br. Birds. ed. 1826, 2. p. t. 390.—*Pull.* Cat. Dorset. 22.—*Low's* Faun. Orcad. 148.
Solan Goose, *Albin's* Birds, 1. pl. 86.
Sula major, *Briss.* 6. 497. 2.
Grand Fou, *Buff.* Ois. 8. 372.
Great Booby, *Lath.* Syn. 6. 610. 25. A.
Pelecanus maculatus, *Gmel.* Syst. 1. 579.
Fou tacheté, *Buff.* Ois. 8. 375.—*Id.* Pl. Enl. 986.
Spotted Booby, *Lath.* Syn. 6. 614. 30.

} Young.

ALTHOUGH the Gannet (or, as it is more frequently called in Scotland, the Solan Goose) deserts its breeding stations and the northern coasts of the kingdom upon the approach of autumn, it is occasionally found throughout the winter in the English Channel, where it keeps at a distance from the land, feeding upon the pilchards and herrings, which at that season retire to the deeper parts of the ocean. The main body of these birds, however, appears to seek more southern latitudes, as they are met with in great numbers during winter in the Bay of Biscay, on the coasts of Spain and Portugal, and in the Mediterranean; and here they find an abundant supply of the Anchovy and Sardine, both species of *Clupea* (herring). They generally make their appearance about the end of March or beginning of April, in the vicinity of their breeding stations: these are the Isle of Ailsa, at the mouth

Periodical
visitant.

Nest, &c.

off the Frith of Clyde; St Kilda; Souliskerry near the Orkneys; the Skelig Isles upon the Irish coast, and the Bass Rock at the entrance of the Frith of Forth. Upon the precipitous rocks of these islands they breed in innumerable multitudes, occupying all the ledges and summits wherever they find sufficient space for the nest, which is formed of a mass of sea-weed, and other materials, which they either find on the rocky cliffs, or gather from the surface of the sea as they pass on the wing. They lay but one egg each (not two, as stated by TEMMINCK), exceeding in size that of the Cormorant, but much less than the egg of the Common Goose; with which it has been compared. Its colour, when first laid, is white, but it soon becomes soiled, and as incubation proceeds, acquires a yellowish or clay-coloured appearance. The young, when hatched, are naked, their skin smooth and of bluish-black, but covered in a few days with a white down, which, growing rapidly, soon becomes very thick, giving them in this state the appearance of large powder-puffs, or masses of cotton. Over this warm clothing, the regular plumage gradually extends; and after about two months they are fully fledged and able to take wing. Great numbers of the young birds are annually taken upon the Bass Rock, not merely on account of the feathers and down, for the bodies are also sold in the neighbouring towns, and in the Edinburgh market, at the rate of 1s. 8d. each, being much esteemed, when roasted, as a relish a short time before the hour of dinner. Their flesh is very oily and rank, and though habit has reconciled the Scotch to such an unusual whet, few strangers would find their appetites increased, after partaking of such a dish. This precipitous rock (the *Bass*) is rented from the proprietor at L.60 or L.70 per annum, and as the proceeds chiefly depend upon the produce of the Gannets, great care is taken to protect the old birds, which the tenant is enabled to do from the privilege possessed by the proprietor, of preventing any person from shooting, or otherwise destroying them within a certain limited distance

of the island. From the accounts I have received from the resident there, it appears that the Gannet is a very long-lived bird, as he has recognised, from particular and well-known marks, certain individuals for upwards of forty years, that invariably returned to the same spot to breed. He also confirmed to me the time required for this bird to attain maturity, viz. four years; and pointed out several in the different garbs they assume during that period, stating also, that until fully matured, they have never been known to breed. During incubation, in consequence of being unmolested, they become very tame; and, where the nests are easily accessible upon the flat surface of the rock on the south-west side of the island, will allow themselves to be stroked by the hand without resistance, or any shew even of impatience, except the low guttural cry of *grog, grog*. Upon the other breeding stations above mentioned, the produce of the Gannet is equally prized, and immense numbers, both of the eggs and young, are annually taken, and preserved by the inhabitants for winter's consumption. From the great development of the wings, and the peculiar apparatus of air-cells distributed over different parts of the body*, the flight of this bird is powerful and buoyant, and can be supported for any length of time. When in search of prey, it soars usually at a considerable elevation, as it thus obtains a sufficient impetus in its fall to reach the fish beneath the surface; at other times, when making its way to any distant point, or in dark and stormy weather, it flies comparatively low.—Its food consists almost entirely of the different species of herring, which it always takes by plunging vertically upon them as they rise within a certain distance of the top of the water. The force

Food.

* For a detailed and interesting account of the anatomical structure of this bird, I must (on account of its length) refer my readers to MONTAGU'S Supplement to his Ornithological Dictionary, under the article "Gannet;" or to a paper in the first volume of the Memoirs of the Wernerian Natural History Society, p. 176, entitled "Observations on some Peculiarities observable in the Structure of the Gannet," &c.

with which it descends in this operation, may be conceived from the fact of Gannets having been taken by a fish fastened to a board sunk to the depth of two fathoms, in which cases the neck has either been found dislocated, or the bill firmly fixed in the wood. PENNANT, and some other writers, describe this bird as having a gular pouch similar to that of the Pelican, and capable of containing five or six herrings; this, however, is not correct, as that part is not more dilatable than the rest of the gullet, which, as well as the skin of the neck, can occasionally stretch to much extent, readily allowing a passage to the largest herring, or even to a fish of still greater dimensions. MONTAGU observes, that he was not able to keep the Gannet alive in confinement; but this probably arose from the want of a due supply of fish, as I have known them to live for a long time in a domesticated state, and my friend Mr NEILL of Canonmills, near Edinburgh, (well known to the scientific world as a botanist and a lover of natural history), has at present, or at least within a very late period had, one in the full enjoyment of health for many years past. This bird, when herrings could not be procured, was fed with flounders, which it swallowed with the greatest apparent ease, the gape readily accommodating itself to their greater breadth. It is almost unnecessary to add, that all fish are swallowed with the head foremost. Sometimes the Gannet becomes so gorged with food, as to be compelled to alight on the water, and to repose there in a lethargic state; and when thus situated, it may, by being advanced upon in a boat from the windward, be easily run down and captured. This arises from its being unable to leave the water except when breasting the wind, and it never makes any attempt to dive, of which power it seems to be totally divested.—This species is widely distributed throughout the northern parts of Europe, and is also common to North America. The body of this bird is long and much flattened, with the neck elongated, and thick and muscular, in order to support its powerful bill; the wings are of great

length, the radius (or second joint) measuring fully eight inches; and the legs are not placed so far behind as in the Cormorants, so that the horizontal position is preserved in walking. In its affinities it seems to connect the true Pelicans with the genera *Tachypetes* and *Phaeton*.

PLATE 86 *. Represents the Adult bird in about three-fifths of the natural size.

Bill bluish-grey, with the tip fading into white. Naked skin surrounding the eyes greyish-blue. The membrane forming the prolongation of the opening of the bill, and that which extends beneath to the middle of the throat, black. Irides pale-yellow. Crown of the head, occiput, and upper part of the neck, pale sienna-yellow. The rest of the plumage pure white, except the quills and bastard wing, which are black. Streak down the front of the tarsus, and along the upper part of the toes, bluish-green. Membranes of the toes blackish-grey. Claws greyish-white, the inner edge of the middle one being dilated and toothed.

General
description.
Adult
bird.

PLATE 87. The young of the year, about three-fourths of the natural size †.

Bill blackish-grey, tinged with brown. Irides pale clove-brown. Ground colour of the head, neck, and whole of the upper plumage blackish-grey, inclining to clove-brown, each feather being tipped with a triangular spot of white. Breast and abdomen white; the feathers being edged with greyish-black. Quills and tail greyish-black, with the shafts of the tail-feathers white. Legs and toes deep-grey.

Young.
First year.

Head, and greater part of the neck, white, more or less

Second
year.

† TEMMINCK has committed an error in describing the plumage of the *first* as that belonging to the bird of the *second* year, and *vice versa*, in which he has been copied by Mr STEPHENS and Dr FLEMING.

- spotted with blackish-grey. Upper plumage of nearly a uniform clove-brown, the triangular spots upon the tips of the feathers becoming less distinct, or entirely disappearing. Under plumage becoming whiter.
- Third year. The white increasing over all the body. The long scapulars and tertials remaining black, or spotted with blackish-grey. The head beginning to acquire the sienna-yellow tinge.
- The plumage of the *fourth year* is described above as the adult Bird.

FAMILY V.—LARIDÆ.

THE Laridæ, which form the fifth family of the Order, and thus complete the circle of the *Natatores*, are distinguished from the preceding division by the form of the feet, which are never *syndactyle*, that is, with all the four toes connected by a continuous membrane. The hind toe, in such species as have one, is free and articulated on the back part of the tarsus; but in some it is either totally wanting or represented by a nail or short claw. The wings of all the members of this family are of great length, and they consequently possess a power of long-continued flight, surpassed perhaps by none of the feathered race. In them the bill is either strait and pointed, as that of the Terns (genus *Sterna*), or with a hooked tip, as in the gulls (genus *Larus*), Petrels (*G. procellaria*), and other nearly allied genera. Most of them subsist upon fish, and other marine matter, either in a living state, or when cast ashore, or floating upon the surface of the sea. Some are, however, in the habit of daily frequenting the interior of the country, and feeding upon earth-worms, slugs, insects, and other animal matter. They are all birds of rapid digestion, and consequently of voracious appetite. Many species are accustomed to repose upon the water, where, from the bulk and closeness of their plum-

age, they float with much buoyancy; but they make little use of their power of swimming, and are altogether incapable of diving. Others, as the Petrels, never actually alight on the water, but use their webbed feet to run, as it were, upon the surface of the waves; and in this action they are assisted by their wings, which are kept partly open. The passage from the *Pelecanidæ* to these birds is effected by the near affinity existing between the genus *Phaeton* of that division and the larger Terns which commence the present one. In this family also, according to the arrangement of Mr VIGORS, a form is found connecting it with the *Anatidæ*, thus completing the circular succession of the Order; and this he thinks is performed by *Pachyptila*, a genus nearly allied to the Petrels. The affinity thus endeavoured to be established, seems, I must confess, distant, and stands in need of the interposition of other forms to render it satisfactory and complete.

GENUS STERNA, LINN. TERN.

GENERIC CHARACTERS.

Bill as long as, or longer than, the head, almost straight, compressed, drawn to a fine point, with both mandibles of equal length, and the upper slightly convex. Tomia rather intracted and sharp-edged. Lower mandible having a prominent angle near its middle part. Nostrils basal, lateral, linear oblong, pervious.

Wings very long, acuminate, with the first quill-feather the longest. **Tail** more or less forked. **Legs** having the tibiae naked for a short space above the tarsal joint. **Tarsi** short. **Feet** of four toes, three before and one behind; the three front toes united by a membrane more or less scalloped, the hind toe small and free. **Claws** arched and sharp.

The Terns, which, in the present family, appear to repre-

sent the fisisrostral tribe of the *Insestres*, have a form and organization admirably suited to their particular economy. Being destined to pass the greater part of their existence in the air, their wings are of great extent, the tail long, and in general deeply forked (a shape possessed by most birds gifted with extraordinary power of flight), the body small and compact, the legs short, and with small feet, not calculated to advance their progress in swimming, but sufficient for their support when occasionally reposing on the water. Such of the species as frequent the ocean subsist upon the fry and the smaller kinds of fish, which they take from the wing, by precipitating themselves upon such as rise within a certain distance of the surface of the water. In this act they descend with astonishing rapidity and force, and are often buried beneath the waves for several seconds. Others, more frequently found upon rivers and fresh-water lakes, in addition to fish, prey upon libellulæ, and other aquatic insects. The distribution of the different species is very extensive, as they are found in all quarters and climates of the world. They are subject to a double moult, but the vernal change is confined to the region of the head, and the plumage of both sexes is precisely similar. The young, until after the first or second general moult, differ from the old birds. During the season of reproduction they congregate in large bodies, nestling closely together, generally upon the shingle, or lower parts of the islets they frequent. Their eggs are three or four in number. By the near affinity of the Gull-billed Tern (*Sterna Anglica*) to some of the lesser species of dark-headed gulls, their connection with the genus *Larus* is evidently traced.

CASPIAN TERN.

STERNA CASPIA, *Pall.*

- Sterna Caspia*, *Pall.* Nov. Com. Petrov. 14. 582. No. 52.—*Gmel.* Syst. 1
603.—*Lath.* Ind. Orn. 2. 803. sp. 1.—*Steph.* Shaw's Zool. 13. 145.
Sterna Tschegrava, Nov. Com. Petrov. 14. 500. t. 132.
Hirondelle-de-Mer Tschegrava, *Temm.* Man. d'Ornith. 2. 733.
Grosse oder Caspische Meerschwalbe, *Bechst.* Naturg. Deut. 4. 675.
Grosse schnabliger Meerschwalbe, *Meyer*, Vog. 2. Heft. 28. t. 6.
Caspian Tern, *Penn.* Arct. Zool. 2. 526. B.—*Id.* Sup. p. 76.—*Lath.* Syn.
350. 1.—*Steph.* Shaw's Zool. 13. 145.

THE capture of two or three individuals of this species in the south-eastern parts of England, entitles it to rank in the list of our Fauna as a very rare visitant; in consequence of which rarity its habits have been exposed to very little observation, and the details of the various authors who notice it scarcely extend beyond a description of its plumage. I must therefore request the indulgence of my readers to a meagre and unsatisfactory account. This bird is one of the largest of its genus, some specimens measuring as much as twenty-two inches in length. In Europe it inhabits the coasts of the Baltic, the Caspian Sea, and the Archipelago. It also occurs in Africa, being met with at Senegal and the Cape of Good Hope; and, according to LATHAM, is known in India and in the Chinese seas, though under rather a different aspect, which renders it not improbable that the bird he has imagined to be a variety of the Caspian Tern, may actually be a distinct species, since so many of them nearly resemble each other in plumage. The habits of the bird now before us are presumed to be similar to those of the other oceanic Terns; and we are informed that it precipitates itself, like them, from a considerable height in the air upon its food, which consists of living fish. Mr STEPHENS, in Shaw's General Zoology, says that its manners rather resemble those of the Gulls, adding that its voice is like the noise made by a man in

Very rare
visitant.

Food.

laughing. This author has fallen into an essential mistake in describing the whole of the upper plumage as of pure white; the mantle and scapulars being, on the contrary, of a pale pearl-grey, a colour that prevails on those parts through all the members of the Laridæ.—It breeds upon the lower parts of small islands, merely scraping a shallow hole in the sand or shingle, and lays two or three eggs of an olive-green colour, dashed and spotted with deep brown or black.

General description.	In the adult summer or nuptial plumage, the bill is of a rich vermilion, and the legs and feet black. The forehead,
Summer plumage.	crown of the head, and lengthened occipital feathers velvet-black. Back, scapulars, and wing-coverts pearl-grey. Sides of the head, fore part of the neck, and the whole of the under plumage pure white. Quills brown, tinged with grey. Tail pearl-grey.
Winter plumage.	In winter the forehead and crown of the head are white, and the occiput is varied with black and white. In other respects as above described.
Young.	The young of the year have the upper parts of a pale wood-brown, tinged with grey, and varied by the transverse blackish bars and spots. Quills blackish-brown, and the end of the tail of the same colour. The under plumage white.

SANDWICH TERN.

STERNA BOYSII, Lath.

PLATE LXXXVIII. FIG. 2.

Sterna Boysii, Lath. Ind. Orn. 2. 806. sp. 10. but not the varieties,—A. B.—*Flem. Br. Anim.* 1. 142. No. 232.
Sterna cantiaxa, Gmel. Syst. 1. 606. sp. 15.—*Steph. Shaw's Zool.* 13. 147.
Hirondelle de Mer Caugek, Temm. Man. d'Orn. 2. 735.
Sandwich Tern, Lath. Syn. 6. 356. 9.—*Id.* Sup. 266.—*Lessin's Br. Birds*, 6. pl. 203.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1834, 2. p. t. 189.—*Shaw's Zool.* 13. 149.—*Flem. Br. Anim.* 1. 142. No. 132.—*Rennie's Mont. Ornith. Dict.* 449.—*Selby in Zool. Journ.* 2. 463.

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| <i>Sterna Africana</i> , <i>Gmel. Syst.</i> 1. 605.— <i>Lath. Ind. Orn.</i> 805. sp. 5. | } Bird not quite matured. |
| African Tern, <i>Lath. Syn.</i> 6. 354. 5.— <i>Id. Gen. Hist.</i> 10. 108. | |
| <i>Sterna striata</i> ? <i>Lath. Ind. Orn.</i> 2. 807. sp. 11.— <i>Gmel. Syst.</i> 1. 609. | } Young before the moult. |
| Striated Tern, <i>Lath. Syn.</i> 6. 358. 10. t. 98. | |

THIS bird appears to have escaped the notice of the earlier British writers, as we do not find any description applicable to it previous to that of Dr LATHAM, in his General Synopsis, to whom it was communicated as a new species by Dr BOYS of Sandwich in Kent. In size it equals, or is in a very slight degree larger than, the Gull-billed Tern, with which it has sometimes been confounded, but is smaller than the Caspian Tern, as it seldom exceeds eighteen inches in length, and about two feet nine inches in extent of wing. Upon the southern coast, where it was first discovered, it is far from being numerous, even during the breeding season, as MONTAGU observes, that during a summer's residence on the coasts of Kent and Sussex, where the other species were plentiful, he was only able to procure two specimens, and never could discover their breeding station. It annually resorts in great numbers to the Fern Islands, on the coast of Northumberland, as well as to the Isle of Coquet, a few miles to the southward. Here a station is selected apart from the other species, generally on a higher site, and the nests are so close to each other as to render it difficult to cross the ground without breaking the eggs, or injuring the unfledged young. Upon this coast it is called, *par excellence*, "the Tern," all the other species passing under the general name of "Sea Swallows." Its habits strongly resemble those of its genus, and it subsists upon similar kinds of fish, the sand-launce and young gar-fish forming the principal supply, and upon which it precipitates itself as they rise near to the surface of the ocean. Its flight is strong and rapid, making a great advance at each stroke of the pinions, and, except when engaged in incubation, it is almost constantly on the wing, uttering at intervals a hoarse and grating cry, which can be heard at a very great distance, and gives notice of its approach long

Periodical visitant.

Food.

before it is discoverable by the eye. If much disturbed by being fired at, or if the eggs be repeatedly taken at the commencement of the season, it deserts the station first selected, and retires to some other place, less liable to molestation. Such a migration took place about three years ago in the colony which had long frequented a particular islet of the Fern group, for, in consequence of some misunderstanding between the proprietor and the person who had the care of these islands, the fishermen on the coast, and boats from passing vessels, made, for one or two seasons, unrestrained irruptions upon the feathered inhabitants; and although many of the other species adhered to their usual haunts, the Sandwich Terns entirely deserted theirs, and fled to Coquet Island, where, from being better protected, they reared their young without farther molestation. Within the last two years, under another tenant of the islands, a considerable body of these birds has returned, but to a site upwards of a mile distant from the one formerly occupied. As soon as the young birds become tolerably fledged, but before they are altogether able to fly, they frequently take to the water, swimming off to the smaller rocks, where they continue to be fed by the parents until capable of joining them in their fishing excursions. With the exception of the Caspian and Gull-billed Terns, which can only be considered as occasional stragglers to our coasts, all the other British species are regular summer visitors. The time of their arrival is about the middle of May; incubation commences in the first week in June, and nearly the whole have again taken their departure for more southern latitudes by the end of September.—The eggs of this bird are three or four in number, for the reception of which a shallow hole is scratched amongst the sea-campion (*Silene maritima*), or other plants that may happen to grow on the selected place. In size they are about equal to those of the Golden Plover, and are usually of a cream or wood-brown colour, blotched with dark brown and black, and with other spots of a lighter shade appearing as it were beneath

Incubation, &c.

the shell. The common varieties of them are either with fewer spots and blotches upon a white ground, or of a deep oil-green, with spots of a darker shade *.

PLATE 88. Fig. 2. Represents this bird of the natural size, and in the summer plumage.

Forehead, crown, and long pendent occipital feathers deep black, but in the beginning of the season the feathers of the forehead are frequently spotted with white, being the remains of the winter plumage. Fore part of the neck, breast, and under plumage rosy or reddish-white. Quills deep hoary ash-grey, having a velvety appearance with the interior half of their inner webs white. Bill black, with the tip straw-yellow. Legs black, the under surface of the toes and webs yellow. Claws black, and very hooked.

In winter the forehead and crown are white. The occiput black, with the edges of the feathers white. At the anterior angle of the eye is a patch of black. Under plumage glossy white, and without the rosy tint. In other respects as in the summer.

The young of the year are, above, of a pale wood-brown, transversely barred with broccoli-brown. The quills are of a deep blackish-grey, bordered and terminated by white. Under plumage white. Bill blackish, tinged with flesh-red, with a yellowish tip. Tail greyish-black in the middle, with the tips of the feathers white.

* For correct figures of the Eggs of British Birds, I refer my readers to Mr HEWITSON'S beautiful work entitled "British Oology," now in the course of publication.

COMMON TERN.

STERNA HIRUNDO, Linn.

PLATE XC. FIG. 1.

- Sterna Hirundo*, *Linn.* Syst. 1. 227. 2.—*Gmel.* Syst. 1. 606.—*Lath.* Ind. Orn. 2. 807. sp. 15.
Hirundo marina, *Roi* Syn. 131. A.—*Will.* 268. t. 68.
Sterna major, *Bris.* Orn. 6. 203. 1. t. 19. f. 1.
Hirondelle-de-Mer *Pierre Garin*, *Buff.* Ois. 8. 331. 27.—*Id.* Pl. Enl. 987.—*Temm.* Man. d'Ornith. 2. 740.
Gemeine Meerschwalbe, *Meyer*, Taschenb. Deut. 2. 459.
Sea Swallow, *Albin*, 2. t. 88.—*Will.* (Angl.) 352.
Greater Tern, *Br.* Zool. 2. 545. No. 254. t. 90.—*Lath.* Syn. 6. 261. 14.—*Levin's Br. Birds*, 6. pl. 204.—*Mont.* Orn. Dict. and Sup.—*Beauclerk's Br. Birds*, ed. 1826, 2. pt. 185.—*Pult.* Cat. Dorset. 18.—*Low's Faun. Orcad.* 125.
Common Tern, *Shaw's Zool.* 13. 150. pl. 18.—*Flem.* Br. Anim. 1. 143. No. 235.

PROVINCIAL—Kirmew, Picket, Tarney, Pictarne, Rittock, Tarret, Spurre, Scraye, Gull Teaser.

Periodical
visitant.

FROM the trivial name attached to this species the supposition naturally arises that its distribution must be more general throughout our coasts than any of the other Terns. This, however, is not the case, as it is of rare occurrence upon the whole extent of the eastern shores of the north of England and Scotland; where its place seems to be supplied by the Arctic and Roseate species. Upon the Fern Islands I have never seen more than two or three pairs in a season; and at the Isle of May in the Frith of Forth, and other northern resorts of various kinds of sea-fowl, its numbers are equally restricted. On the contrary, it visits the opposite parts of the western coast in large bodies, breeding abundantly on certain situations in the Solway, and the Frith of Clyde; and is moreover the prevailing species upon all the southern coast of England. Its flight rather resembles that of the Roseate Tern, but it is scarcely so buoyant, and has a quicker motion of the wings. Its voice is harsh, but easily to be distinguished from those of the

other species, when flying in company with them.—It feeds upon small fish, which are taken in the same way as by the others of this genus; but, according to MONTAGU, it possesses a habit which I have not observed in the rest, that of pursuing and persecuting the lesser gulls till they disgorge their recent prey, which is caught and swallowed by it ere it reaches the water. In the Supplement to the Ornithological Dictionary, MONTAGU has attached the *Sterna Navia* of LINNÆUS and GMELIN, and also the *Guifette* of BUFFON, as synonyms to this species; but I feel more inclined to adopt TEMMINCK's opinion, viz. that they are more immediately referable to the *Sterna nigra*, than to the present species. The Common Tern is widely distributed throughout the ancient continents and islands, and during the breeding season is found as far to the northward as Greenland and Spitzbergen. The species described by WILSON, in the American Ornithology, as *Sterna Hirundo*, is clearly distinct, and has by the Prince of Musignano been appropriately named *Sterna Wilsonii*.—The Tern breeds upon the sand or shingle beyond high-water-mark, making no artificial nest, but scraping a slight concavity for the reception of two or three eggs, which vary very much in colour; the ground in some being of a deep oil-green, in others of a cream-white, or pale wood-brown, but all blotched with blackish-brown and ash-grey. In warm and clear weather this bird incubates little during the day, in such situation the influence of the sun upon the eggs being sufficient; but it sits upon them in the night, and also through the day under a less favourable state of weather. The young when excluded are covered with a mottled grey and white down, and are assiduously attended by the parents, and well supplied with food, until able to fly, and accompany them to sea. During the time of incubation the old birds display great anxiety, and are very clamorous when any one approaches their station, in flying round and frequently descending so near as to strike the hat of the intruder.

Food.

Incubation, &c.

PLATE 90. Fig. 1. represents it of the natural size, in the summer plumage.

General
description

Summer
plumage.

Bill one inch and a half in length, from the forehead to the tip; red for two-thirds of its length, with the point black. Forehead, crown, and long occipital feathers intense black; the rest of the face, cheeks, and throat, white. Breast having a slight tinge of pearl-grey; the rest of the under plumage white, frequently with a very faint rosy tinge. Head, neck, mantle, and wings, pearl-grey. Lower part of the back and upper tail-coverts white. Tail having the exterior webs of the feathers grey, increasing in depth of colour to the outermost one, in which it is greyish-black. Quills, with the outer web of the first feather black for the greater part of its length; the rest hoary grey; the white upon their inner webs ending at about an inch and a half from the tips. Legs and feet bright tile-red; the tarsus seven-eighths of an inch long.

Winter
plumage.

In winter the black upon the forehead and crown loses its intensity; in other respects there is no difference between that and the summer plumage.

ROSEATE TERN.

STERNA DOUGALLII, *Mont.*

PLATE LXXXIX. FIGS. 1. & 2.

Sterna Dougallii, *Mont.* Orn. Dict. Sup. with fig.—*Selby* in *Zool. Jour.* 2. 462.—*Shaw's Zool.* 13. 152.—*Flem. Brit. Anim.* 1. 143. No. 234.
Hirondelle-de-Mer Dougall, *Temm.* *Man. d'Orn.* 2. 738.
Roseate Tern, *Mont.* Orn. Dict. Sup.—*Bewick's Br. Birds*, ed. 1826, pt. 192.—*Shaw's Zool.* 13. 153.—*Flem. Br. Anim.* 1. 143. 234.—*Rennie's Mont. Orn. Dict.* 432.

Periodical
visitant.

THIS species of Tern was first discovered by Dr MAC-DOUGALL of Glasgow, on the Cumbray Islands in the Frith of Clyde, the breeding resort of great numbers of the com-

mon species; but has since been found to inhabit many other stations during the summer, both upon the eastern and western coasts of Scotland. Upon the Fern Islands, on the Northumbrian coast, I have also met with it plentifully for the last fifteen years; but here it had only been noticed for a year or two previous to that period as a distinct species, by the keeper of the Lighthouse, from whom I received the first intimation of the fact. According to TEMMINCK, the shores of Norway also afford it a summer retreat, and it has been found to breed, though in small numbers, upon the coast of Picardy in France. It is of light and elegant form, rather inferior in bulk to the Common Tern, though of greater length, from the extreme development of the outer tail-feathers, which in many specimens reach nearly three inches beyond the closed wings. Its bill is also more subulate and not so deep as in the other, and entirely black, with the exception of the part immediately behind the nostrils, which is of a deep red. It is easily to be distinguished when on wing from all the other species, its flight being peculiarly buoyant, and sustained by a slower stroke of the pinions. The length of the tail is also characteristic, and its cry is different in expression, resembling the word *crake*, in a key Incubation, &c. not unlike that of the Land Crake.—Upon the Fern Islands it breeds on the outskirts of the station occupied by the Arctic Tern (the prevailing species there); and its eggs much resemble those of that bird, but are a little larger, and with the ground-colour usually more inclining to cream-white or pale wood-brown. In habits it scarcely differs from Food. its nearly allied congeners, preying on the same kinds of fish, which are obtained in a similar manner as they rise towards the surface of the water. Its arrival may be stated as at the same time with the Sandwich and Arctic Terns; and by the end of September nearly the whole of them will have departed for warmer latitudes.

PLATE 89. Fig. 1. represents the Adult bird in summer plumage.

General
description.
Adult
bird.

Bill, from the forehead to the tip, one inch and a half long; the upper mandible gently arched; and both the mandibles more slender than in the Common and Arctic species. Forehead, crown, and long feathers of the occiput, intense black. Line from the base of the upper mandible, cheeks, neck, and the whole of the under plumage, of a glossy white, deeply tinged with rosy red (which fades in museum specimens when exposed to the light). Back and wing coverts pale pearl-grey. Outer web of the first quill-feather black; of the rest, hoary grey; inner web of the whole having a streak of hoary grey next the shaft, and the other part pure white. Tail pure white; with the outer feather on each side much produced, and reaching from two and a half to three inches beyond the tips of the wings. Legs and toes bright red; the tarsi six-eighths and a half of an inch in length; membranes much scalloped; claws black.

Young. Fig. 2. is the Young of the year, immediately previous to its departure in autumn.

Bill brownish-black, with the base orange-yellow. Forehead and crown cream-yellow, tinged with grey. Region of the eyes, ear-coverts, and nape of the neck, greyish-black, mixed with yellowish-white. Throat, sides of the neck, and under parts, white. Ridge of wing blackish-grey, with the edges of the feathers paler. Back and wing-coverts bluish-grey, marbled with greyish-black and yellowish-white. Tail having the outer webs of the feathers grey; the inner, and tips, white. Quills grey, margined with white. Legs pale gallstone-yellow.

The winter plumage of this species has not yet been ascertained.

ARCTIC TERN.

STERNA ARCTICA, Temm.

PLATE XC. FIG. 2.

Sterna arctica, Temm. Man. d'Orn. 2. 742.—*Selby* in Zool. Jour. 2. 461.
 —*Stroph.* Shaw's Zool. 13. 152.—*Sabine* in Frank. Jour. App. 694.
Hirondelle-de-Mer Arctique, Temm. Man. 2. 742.
Arctic Tern, *Selby* in Zool. Jour. 2. 461.—*Lath.* Gen. Hist. 10. 116.—
Shaw's Zool. 13. 152.

THIS bird, which was first described and confirmed as a distinct species by M. TEMMINCK, has long been a summer visitant to the coasts of the north of England and Scotland. Here it is met with in greater numbers than even the Roseate and Sandwich Terns, but until the distinguishing characters which separate it from the common species (of which Dr FLEMING still seems to consider it as only a variety) were pointed out, it had always, as the prevailing species in the parts it frequents, been mistaken for that bird; which latter, as I have previously noticed, is comparatively of rare occurrence on the north-eastern coast of the kingdom. Upon close examination and comparison of their characteristics, as great a distinction will be found to exist between the bird now before us and *Sterna Hirundo*, as between the latter and *Sterna Dougallii*; which last is generally admitted to be a separate species. The bill is different in form, being shorter, and with the upper mandible more arched throughout its length; its colour is also of a deeper coral red, and, when some few exceptions occur to its being entirely of that colour, it is the extreme tip alone that is darker. Again, the tarsi of *Sterna arctica* are nearly two-eighths of an inch shorter than those of *S. Hirundo*,—a fact of itself sufficient to establish its rank as a species. It also differs materially in the colour of its plumage; the whole of the breast, neck, and under parts being of as deep a grey as the back and

Periodical
visitant.

Incuba-
tion, &c.

wings, during the breeding season,—whereas, in the Common species, the forepart of the neck, the belly, and abdomen, are nearly white, and in the breeding season frequently tinged with rosy red, as in *S. Boysii* and *Dougallii*. The grey colour in the present species is also of a deeper tint. When in company with the others, it is easily recognised by its voice, mode of flight, and other traits, which, though they might pass unheeded by a common observer, are quickly seized upon by the practical ornithologist. Upon the Northumbrian coast it breeds in great numbers on the Fern Islands, where I corrected my mistake respecting it, having at first conceived it to be the Common Tern.—The colony occupies a large space on the islet selected, and the eggs are placed so near to each other as to render it difficult to traverse the site without crushing some of them. They are deposited on the bare sand or gravel, to the number of two or three each, rarely four, and differ much in colour and markings. The prevailing tint may be stated as a deep oil-green, with darker spots and blotches. The young, upon exclusion, are covered with a parti-coloured down, usually a yellowish-grey, with darker variegations, but they fledge very rapidly, and within a month from the time of hatching are able to fly. Until they are so far advanced, they continue to be assiduously visited by the parents, and are fed with the fry of the sand-launce (*Ammodytes Tobianus*), which is taken in the manner common to the genus, by plunging from some height in the air.

General
description.
Adult
bird.
Summer
plumage.

PLATE 90. Fig. 2. represents the Arctic Tern of the natural size, and in the summer plumage.

Bill, from the forehead to the tip, one inch and two-eighths long, with the upper mandible arched; colour arterial blood-red; (in some specimens the extreme tip is blackish-red). Forehead, crown, and long occipital feathers, intense black. Chin, and line bordering the black cap, white. Neck, breast, and the whole of the upper and under plumage, deep pearl-grey. Outer web of the

first quill black, except about an inch near to the tip, which is grey; those of the other quills having pearl-grey tips, and exhibiting a silky lustre. Tail white, and much forked; the exterior feather on each side having its outer web blackish-grey; those of the rest being pale pearl-grey. Wings, when closed, reaching to the end of the tail. Legs and feet deep arterial blood-red. Tarsi five-eighths of an inch in length. Claws black. The winter plumage of this bird has not yet been ascertained.

The Young, when fully fledged, have the auriculars and occiput greyish-black. The upper parts pearl-grey, with the tips of the feathers pale yellowish-grey. The under parts white.

LESSER TERN.

STERNA MINUTA, Linn.

PLATE LXXXIX. Figs. 3. 4.

- Sterna minuta*, Linn. Syst. 1. 228. 4.—Gmel. Syst. 1. 608.—Lath. Ind. Orn. 2. 809. sp. 19.—Steph. Shaw's Zool. 13. 163.—Flem. Br. Anim. 1. 144. No. 237.
Sterna minor, Briss. Orn. 2. 206. pl. 19. fig. 2.
Sterna Metopoleucos, Gmel. Syst. 1. p. 608.—Lath. Ind. Orn. 2. 809. sp. 22.
Larus piscator, Aldrov. Rasi Syn. 131. A. 2.—Will. 2. 69.
 La Petite Hirondelle-de-Mer, Buff. Ois. 8. 337.—Id. Pl. Enl. 996.—Temm. Man. d'Orn. 2. 752.
 Die Kleine Meerschwalbe, Bechst. Naturg. Deut. 4. 699.—Meyer, Taschenb. Deut. 2. 463.
 Hooded Tern, Lath. Syn. 6. 365. 21.
 Lesser Tern, Penn. Br. Zool. 2. 546. No. 255. pl. 90.—Arct. Zool. 2. No. 449.—Lath. Syn. 6. 364. 18.—Lewin's Br. Birds, 6. pl. 205.—Mont. Orn. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 187.—Flem. Br. Anim. 2. 144. No. 237.
 Little Tern, Shaw's Zool. 13. 163.
 Richel Bird, Rennie's Mont. Orn. Dict. 419.
 Lesser Sea Swallow, Albin's Birds, 2. pl. 90.—Will. (Angl.) 353. t. 68.

Of the several species of Tern that annually resort to our Periodical
 coasts for the purpose of reproduction, this is much the visitant.

smallest, not exceeding nine inches in extreme length, and measuring in extent of wing about twenty inches. The communities in which it breeds are seldom so numerous as those of the preceding and other species, and it is rarely found in company with them. Thus, upon the coast of Northumberland, the Lesser Tern is not an inhabitant of the Fern Islands, the great resort of those already described; but this bird annually breeds in a small colony, about eight or nine miles distant, upon the beach of the mainland, near to Holy Island. It is plentiful in the Frith of Forth, where it occupies stations on both sides of the arm of the sea; and is met with in various parts upon the western shores of the island, and also on the Lincolnshire coast, in which latter place, according to MONTAGU, it is very abundant. In this species the bill is large, strong, and almost straight, the upper mandible being very little arched. It is an oceanic bird, being only accidentally met with inland, or upon fresh-water lakes and rivers.—Its food consists of marine insects and the fry of different fish. Its habits are so similar to those of the other species, as to require no particular detail.—Its eggs are generally two in number, sometimes three, which are deposited on the bare gravel or sand, just beyond the reach of the highest tides. Their colour is a pale wood-brown, or oil-green, blotched with brown of different shades. The Lesser Tern arrives on our coasts, and departs nearly at the same periods as the other species.

Food.

Incubation, &c.

General description.

Adult bird.
Summer plumage.

PLATE 89. Fig. 3. represents the Adult Bird of the natural size, and in the summer plumage.

Bill yellow, with the tip black; one inch three-eighths and a-half in length. Streak from the bill to the eyes, crown, and long occipital feathers, black, Forehead, cheeks, forepart and sides of the neck, and the whole of the under plumage, pure white. Back and wing-coverts pearl-grey. The three first quill-feathers blackish-grey, with their inner webs deeply edged with white;

the rest pearl-grey. Tail white, and forked. Wings, when closed, extending beyond the tail. Legs and toes yellow; the tarsi about five-eighths of an inch in length.

Fig. 4. is the Young Bird, when fledged.

Young.

Forehead, crown, and occiput, cream-yellow, varied with blackish-grey on the latter part. Back, scapulars, and part of the wing-coverts cream-yellow, each feather having an angular bar near the tip. Chin, throat, and under plumage, white. Tail white at the base, passing into cream-yellow at the tip. Bill pale yellow, with its tip blackish-brown. Legs and toes pale sienna-yellow.

The winter plumage of the adult differs from that of the summer only, in having the black upon the head less intense, and the white of the forehead extending farther backwards.

BLACK TERN.

STERNA NIGRA, Linn.

PLATE XCI.

Sterna nigra, Linn. Syst. 1. 227. 3.—Gmel. Syst. 1. 608.—Lath. Ind. Orn. 2. 810. sp. 24.—Brisson. Orn. 6. 211. 4.—Flem. Br. Anim. 1. 144. No. 236.—*Sterna fassipes*, Linn. Syst. 1. 228. 7.—Gmel. Syst. 1. 610.—Lath. Ind. Orn. 2. 810. sp. 23.

Sterna atricapilla, Brisson. Orn. 6. 214. 5.

Larus niger Gesneri, Raii Syn. 131. A. 3.—Will. 269.

Larus minor fides nostras, Raii Syn. 132. A. 6.—Will. 270.

Larus niger fassipes alis longioribus, Aldrov. Raii Syn. 131. 4.—Will. 270. t. 68.

Viralva nigra, Leach in Cat. Br. Mus.—Steph. Shaw's Zool. 13. 167. pl. 19.

Hirondelle-de-Mer noir ou l'Epouvantail, Buff. Ois. 8. 341.—Id. Pl. Enl. 333.—Temm. Man. d'Ornith. 2. 749.

Hirondelle-de-Mer à Tête noir, ou le Gachet, Buff. Ois. 8. 342.

Schwarze und Schwarzekehler Meerschwalbe, Bechst. Naturg. Deut. 4. 602. and 697.

Schwarzgraue Meerschwalbe, Meyer, Tasschenb. Deut. 2. 461.

Lesser Sea Swallow, Albin's Birds, 2. t. 89.—Lath. Syn. 6. 367. 22. A.

Black Tern, Penn. Br. Zool. 2. 547. No. 256.—Arct. Zool. 2. 450.—Lath. Syn. 6. 366. 22.—Id. Sup. 267.—Lewin's Br. Birds, 6. pl. 206.—Mont.

- Ornith. Dict. and Sup.—*Bewick's Br. Birds*, ed. 1826, p. t. 195.—*Flem. Br. Anim.* 1. 144. No. 236.
 Black Viralve, *Shaw's Zool.* 13. 167. pl. 19.
 Stern, *Rennie's Mont. Orn. Dict.* 495.
Sterna naevia, *Linn. Syst.* 1. 228. 5.—*Gmel. Syst.* 1. 609.—*Briss. Orn.* 6. 216. 6. t. 20. f. 2.
Sterna Boysii, var. B. *Lath. Ind. Orn.* 2. 806. sp. 10.
 La Guifette, *Buff. Ois.* 8. 339.—*Id. Pl. Enl.* 924.
 Die Gefleckte Meerschwalbe, *Bechst. Naturg. Deut.* 4. 688.
 Kamtschatkan Tern, *Arct. Zool.* 2. 525. A.—*Lath. Syn.* 6. 358. 9. var. A.
 PROVINCIAL—Clovenfoot Gull, Scarecrow, Car Swallow.

Periodical
visitant.

THE Black Tern differs from the species already described in preferring the lakes and pools of the interior of the country to the waters of the ocean, and in subsisting upon *Libellulæ*, and other aquatic insects, in preference to fish. For these reasons, and from a slight difference of form in the tail, which is rather less forked, Mr STEPHENS has separated this and some other species, under the generic title of *Viralva*, from the Terns already described; but as no marked characters of distinction are displayed in those essential members, the bill and legs; and as the habits of the present (except in the points above stated) are very similar to those of the before described species, I have retained the whole under the Linnean genus *Sterna*. Like the foregoing, the present bird is migratory, being a regular summer visitant; its arrival in the fenny parts of Lincolnshire and Cambridgeshire, and in the pools of Romney Marsh, in Kent, taking place towards the end of April, or the beginning of May, and incubation commences soon afterwards.—It breeds among

Nest, &c.

sedges or other aquatic herbage, making, according to MONTAGU, a nest of similar vegetable matter on a grassy tuft, just above the surface of the water; and TEMMINCK further states that the site is frequently the expansive floating leaf of the Water Lily (*Nymphæa alba*). The eggs, from two to four in number, are of an oil-green colour, tinged with wood-brown, and blotched all over with deep umber-brown, in size one-third less than those of the Common and Arctic Terns. The appearance of the Black Tern in this country is principally confined to the districts above mentioned, and

it is rarely met with in the north of England or in Scotland. On continental Europe, it is very abundant throughout the whole of Holland, in many parts of France, and in that portion of Hungary which is intersected by lakes and morasses. Its food chiefly consists of the larger sorts of water-fly, as *Libellulæ*, *Phryganææ*, &c., but it also eats the fry of fish, and aquatic worms. Its flight is peculiarly buoyant, and has been compared to that of *Night Jar*; the evolutions being very rapid, and the turns very abrupt, particularly when hawking after its food. MONTAGU, in the Supplement to his Ornithological Dictionary, mentions a chase of this bird by a Peregrine Falcon, whose repeated pounces it foiled, and from whom it ultimately escaped, by the dexterity and singular quickness of its manœuvres.

PLATE 91. represents this species in both the Summer and Winter Plumage.

Head and neck entirely black. Breast, belly, and abdomen, deep blackish-grey. Under tail-coverts white. Upper plumage and tail deep bluish-grey. Two first primary quills having the extremity of the inner web edged with white. Bill about the length of the head, black. Legs and feet black, with a tinge of red; and with the membranes that connect the toes deeply scalloped.

General
description.
Summer
Plumage.

Crown of the head, and back part of the neck, white. The forehead, cheeks, throat, and fore-part of neck, pure white. The rest of the plumage as in summer. During the time of change, the forehead and throat are more or less spotted with black.

Winter
plumage.

The Young, in addition to the white forehead and throat, have all the under plumage of a pure white; and on each side of the breast is a patch of blackish-grey. The crown of the head, nape of neck, and mark in front of the eyes, are black. Back and scapulars brown, tinged

Young.

with grey; the edges of the feathers being yellowish-white. Wing-coverts, rump, and tail, deep grey. Base of the bill reddish-brown. Feet and toes bluish-grey, tinged with flesh-red. In this state the present species appears to be *Variety A.* of the Sandwich Tern, in LATHAM'S Index Ornithologicus, the *Sterna Nævia* of GMELIN, and the *Guifette* of BUFFON.

GULL-BILLED TERN.

STERNA ANGLICA, Mont.

PLATE LXXXVIII. FIG. 1.

Sterna Anglica, Mont. Ornith. Dict. Sup. et Tab.—Flem. Br. Anim. 1. 143. No. 233.

Viralva Anglica, Steph. Shaw's Zool. 13. 174.

Sterna Aranea? Wils. Amer. Orn. 8. 158. pl. 72. f. 6.

Hirondelle de Mer Hansel, Temm. Man. d'Orn. 2. 744.

Marsh Tern, Wils. Amer. Orn. as above.

Gull-billed Tern, Mont. Orn. Dict. Sup. and Figure.—Flem. Br. Anim. 1. 143. No. 233.

Gull-billed Viralve, Shaw's Zool. 13. 174.

Rare visitant.

THE discovery of this species (which it seems, from resemblance in size and general appearance, had previously been confounded with the *Sterna Boysii* of Dr LATHAM), we owe to the discrimination of MONTAGU, who has pointed out its distinguishing characters, and given a figure of it in the Supplement to his Ornithological Dictionary. From the specific name of *Anglica* (rather inappropriately imposed by this author), it might be supposed a common and generally distributed bird throughout this country; but it is, on the contrary, one of our rarest species, and has hitherto been only occasionally met with on the southern coast of the kingdom, and never in any number together. In its habits it approaches nearer to the Black Tern than to the oceanic species previously described, preferring the lakes and rivers

of the interior to the open sea, and feeding on insects rather than on fish. On the European continent, it is abundant in Hungary (where it frequents the marshes, and the Lakes Neusidel and Platten), and on the confines of Turkey. Upon investigating specimens from North America, I feel no hesitation in considering the *Marsh Tern* of WILSON'S North American Ornithology to be the same bird, although Mr ORD (in the eighth volume of that work), is inclined to regard it as distinct, in consequence of some difference between the length of the bill and tarsi, as expressed in a *drawing* of the *Sterna Aranea* that he examined, and the proportions of those parts in the first species, as given by MONTAGU and TEMMINCK. In this Tern the bill is thicker and stronger than in all the preceding ones, and the angle at the symphysis of the lower mandible more prominent, the tarsi are also longer; in all which particulars it shews a striking approach to the smaller species, of the genus *Larus*, and thus forms a connecting link between the two genera. It breeds in the marshes, and on the edges of the lakes it inhabits, making no nest, but depositing on the bare ground three or four eggs of an oil-green colour, spotted with dark brown. It has not been known to breed in England, although most of the specimens hitherto obtained, as well as that described and figured by MONTAGU, were in the summer or nuptial plumage.

Food.

Incubation, &c.

PLATE 88. Fig. 1. represents this bird of the natural size, in the winter plumage.

Forehead and crown white, with the shafts of the feathers grey. Anterior angle of the eyes, and spot upon the auriculars, greyish-black. Upper parts deep pearl-grey. Quills grey, having a hoary appearance; the tips of the first five being blackish-grey. Under plumage white. Wings, when closed, extending upwards of two inches beyond the tail. Bill not quite one inch and a-half in length, and entirely black. Legs and toes

General description.
Winter plumage.

black, with a slight tinge of red. Tarsi one inch and three quarters long.

Summer
plumage.

In summer, the forehead, crown, and back part of the neck are deep black. In other respects there is no striking difference between that and the winter plumage.

GENUS LARUS, LINN. GULL.

GENERIC CHARACTERS.

BILL of mean length, strong, strait, cultrated ; the upper mandible having the tip incurved ; symphysis of the lower mandible strongly angulated, and ascending from thence to the point. Nostrils placed in the middle of the bill, lateral, oblong, narrow, and pervious. Tongue pointed, with the extreme tip cloven. Wings long, acuminate. Tail even, or slightly forked.

Legs placed near the centre or equilibrium of the body, of mean length and strength, with the lower part of the tibiae naked. Feet of four toes, three before and one behind ; the three front toes united by a membrane ; the hind one short and free, articulated upon the back part of the tarsus. Nails slightly falcate. Tarsi and upper part of the toes scutellated.

The passage from the Terns to the larger and more typical Gulls, is effected by certain small species of the latter genus, possessing a less robust bill, and slightly forked tail. In their changes of plumage also, they shew their connexion with the former birds, by the head becoming entirely or partly of a dark colour, as the season of reproduction approaches, and being more or less white during the rest of the year. In the larger Gulls the reverse takes place, the head and neck being of an unsullied white during the summer, and in winter being

streaked and varied with blackish-grey. The young of all the species are long in acquiring maturity, being one or two years in the smaller, and in the larger extending to the end of the third, before the plumage is fully perfected. During these periods the birds of the same year generally associate together, and the immature are but occasionally seen mixed with the adults. The Gulls have a very wide geographical distribution (as might be expected in a typical genus), and species are found in every division of the globe, and under a great variety of climate, although the larger ones are mostly inhabitants of the higher latitudes. Their apparent bulk greatly exceeds their actual weight, from the head being large, the wings long, and the body clothed with an abundance of down and feathers. They are endued with great power of flight, but more remarkably so for the length of time it can be sustained with little exertion of the pinions than for swiftness; and in this state, by keeping the head opposed to the current of air, they brave the severest storms with impunity. When in need of repose, they alight upon the surface of the ocean, where they float with much buoyancy, or, retiring to the beach, stand quietly, till again impelled by hunger to resume their circling flight. They are birds of voracious appetite, and devour greedily all kinds of animal matter; the larger Gulls subsisting upon the dead carcasses of whales, and other fish, crustaceæ, &c.; and the smaller upon marine worms, insects, and any refuse of the ocean, or production of the waters they frequent. Some of the species are accustomed to fly inland, feeding upon earth-worms, grubs, and slugs, as exemplified in the Common Mew (*Larus canus*). They breed together in large companies, and in various situations, according to the habits of the species; some, as the Kittiwake (*Larus rissa*), selecting the small ledges of perpendicular cliffs of rocks overhanging the ocean; others, as *Larus fuscus* and *L. argentatus*, choosing flat and exposed rocky islands; whilst others again, as *Larus ridibundus*, &c. retire to the marshes and pools of the

interior of the country, where they form their nests in the reeds and other aquatic herbage. In the Kittiwake an approach to the Petrels is perceptible in the imperfect development of the hind toe, and in the decidedly oceanic habits of the bird.

LITTLE GULL.

LARUS MINUTUS, Pall.

PLATE XCII.

Larus minutus, Pall. Reise, 3. 702. No. 35.—Gmel. Syst. 1. 595.—Steph. Shaw's Zool. 13. 206.—Flem. Br. Anim. 1. 142. No. 2. Straggler.
Larus atricilloides, Gmel. Syst. 1. 601.—Lath. Ind. Orn. 2. 813.
Mouette Pygmée, Temm. Man. d'Orn. 2. 787.
Die Kleine Meve, Meyer, Tasschenb. Deut. 2. 488.
Little Gull, Lath. Syn. 6. 391. 17.—Mont. Ornith. Dict. and Sup. App. to Sup.—Shaw's Zool. 13. 206.—Beewick's Br. Birds, ed. 1826, p. 226.

Occasional
visitant.

THE Little Gull, as its trivial name leads us to conclude, is one of the smallest of the genus, and was first noticed as an occasional visitant to the British coasts by MONTAGU, who, in the Appendix to the Supplement of his Ornithological Dictionary, has accurately described and given a figure of an individual that was killed upon the Thames near to Chelsea, but in an immature state of plumage, being that acquired at the first autumnal moult. Since that time other instances have occurred at different seasons, so as to exhibit it when arrived at maturity, both in the winter and summer plumage; and, to put us in possession of all the changes it undergoes, a bird of the year in its first plumage, and previous to the autumnal moult, was killed upon the Frith of Clyde, of which the second figure on the plate is a representation. This specimen, now in the Edinburgh College Museum, was at first ticketed as the *Gull-billed Tern*, but the error was subsequently discovered, and the nomenclature corrected.

The Little Gull is a native of the eastern parts of Europe, being a common and abundant species in Russia, Finland, the shores of the Caspian Sea, &c., and extends its range to Siberia, where it breeds. It frequents the lakes and rivers of the interior, as well as the sea-coast, and subsists upon worms, insects, and the fry of fish, in habits strongly resembling the other dark headed Gulls. It would also appear to be a native of America, a specimen having been obtained on Sir JOHN FRANKLIN's first expedition, which agreed in every respect with TEMMINCK's description of the young of this species. Food.

PLATE 92. Represents the Adult Bird in the winter plumage, from a beautiful specimen kindly lent to me for the purpose by Mr JOHN GOULD, and which was killed upon the Thames in January 1828. Figure of the natural size.

Forehead, face, throat, tail, and under plumage, pure white. Anterior angle of the eye, ear-coverts, nape and back part of the neck, deep blackish-grey. Upper plumage fine pearl-grey, the quills and secondaries tipped with white. Interior of the wings or under-coverts deep grey. Bill brownish-black, tinged with red. Legs and toes bright tile-red. General description. Winter plumage.

In summer the whole of the head and upper part of the neck become black, as in the next species (*Larus ridibundus*.) The white of the lower part of the neck, and of the under plumage, assumes a slight rosy tint; but the lower part of the back and the tail remain of a pure white. The bill also loses its brown tinge, becoming of an arterial blood-red colour, and the legs and toes acquire an additional intensity of hue. Summer Plumage.

Fig. 2. Is the young of the year, immediately previous to the autumnal moult.

Forehead and crown white, tinged with grey. Nape, and back part of the neck, and upper parts of the body, blackish-grey, tinged with clove-brown, the edges of the feathers being fringed with greyish-white. Scapulars edged with white. Greater coverts grey, deeply margined with white. First four primary quills having their outer webs and tips black, and the inner webs greyish-white. Under plumage white. Tail white for two-thirds of its length, terminated by a broad black bar, slightly *concave or forked*. Legs and toes livid or pale flesh-red. Two or three light grey feathers indicating the approaching change of plumage are seen upon the back; and this change, when perfected, brings the bird to the state of the *Little Gull* of MONTAGU, described as above mentioned, where the whole of the mantle and scapulars are stated to be of a "*fine cinereous grey*," like that of the Herring and most of the lighter-coloured Gulls.

BLACK-HEADED GULL.

LARUS RIDIBUNDUS, Linn.

PLATE XCII.

Larus ridibundus, Lath. Ind. Orn. 2. 811. 2.—*Shaw's Zool* 13. 201. pl. 22.
—*Flem. Br. Anim.* 1. 141. No. 230.

La Mouette rieuse, ou à Capuchon brun, *Temm. Man. d'Orn.* 2. 780.

Schwarzköpfige Meve, *Bechst. Naturg. Deut.* 4. 635.—*Meyer, Tasschenb. Deut.* 482.

Black-headed Gull, *Mont.* in Linn. Trans. 7. 284.—*Mont. Orn. Dict. and Sup. and App. to Sup.*

Red-legged Gull, *Shaw's Zool* 13. 201. pl. 22.

Laughing Gull, *Rennie's Mont. Orn. Dict.* 291.

Summer Plumage.	{	<i>Larus ridibundus</i> , Linn. Syst. 1. 225. 9.— <i>Gmel. Syst.</i> 1. 601.
		<i>Gavia ridibunda</i> Phœnicopos, <i>Briss.</i> 6. 197. 14.
		<i>Larus cinereus</i> , <i>Raii Syn.</i> 128. A. 5.— <i>Will.</i> 264.
		La Mouette rieuse, <i>Buff. Ois.</i> 8. 433.— <i>Id.</i> Pl. Enl. 970.
		Brown-headed Gull, <i>Albin.</i> 2. tab. 86.
		Black-headed Gull, <i>Br. Zool.</i> 2. 541. No. 252.— <i>Arct. Zool.</i> 2. No. 455. <i>Will. (Angl.)</i> 347.— <i>Lath. Syn.</i> 6. 380. 9.— <i>Rewick's Br. Birds</i> , ed. 1826, p. t. 222.

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| Larus cinerarius, <i>Linn. Syst.</i> 1. 224. 4.— <i>Gmel. Syst.</i> 1. 597. | } Winter Plumage. |
| Larus albus major, <i>Raii Syn.</i> 129.— <i>Will.</i> 264. | |
| La Petite Mouette cendrée, <i>Buff. Ois.</i> 8. 430.— <i>Id. Pl. Enl.</i> 969. | |
| Greater White Gull of Belon, <i>Will. (Angl.)</i> 348.— <i>Br. Zool.</i> 542. No. 252. var. A. | |
| Red-legged Gull, <i>Lath. Syn.</i> 6. 381. 10.— <i>Bewick's Br. Birds</i> , ed. 1826, p. t. 225. | } Young. |
| Larus erythropus, <i>Gmel. Syst.</i> 1. 597. | |
| Red-legged Gull, <i>Penn. Arct. Zool.</i> 2. 533. | |
| Brown-headed Gull, <i>Lath. Syn.</i> 6. 383. | |
- PROVINCIAL.—Pewit-Gull, Blackcap Gull, Black-head, Pick-mire, Sea Crow, Mire Crow, Crocker.

THE changes that this Gull undergoes in attaining maturity, and those incidental to certain periods of the year, have been so clearly elucidated, and the synonyms of other authors who have described it so correctly collated by MONTAGU (in the Supplement to his *Ornith. Dict.* and the Appendix to the same), as to render it quite unnecessary for me to enter into any discussion respecting its identity under these different titles, except so far as to remark, that the *Sterna obscura* of GMELIN and others, which he thinks applicable to the present species, I consider as more so to the young of the Black Tern (*Sterna nigra*), an opinion I observe to be also adopted by TEMMINCK. The Black-headed Gull is one of our commonest species, and during the months of spring and summer leaves the sea-shore, its winter residence, and retires to the interior parts of the country, congregating in large bodies, which take up their abode amidst the pools and wet places of fenny districts, as well as on low islands, and on the margins of lakes or artificial ponds. In such situations, upon the tufts of rushes and other aquatic herbage, this bird makes its nest of decayed grass and other similar materials, and lays three or four eggs of a pale oil-green or wood-brown colour, blotched with black and grey. These are hatched early in June, or sometimes (in cases of a remarkably fine season) before the expiration of May. The young, when first excluded, are covered with a parti-coloured down of white, grey, and brown, and soon become fledged; insomuch, that I have seen flocks as early as on

Nest, &c.

the 22d day of June at a considerable distance from the nearest breeding-station, on their way to the coast or to other districts. During the breeding season, this Gull subsists upon earth-worms, slugs, and winged aquatic insects, which latter it is frequently seen pursuing and catching in its flight along the course of any river or smaller stream. When on the coast, it feeds more upon small fish, crustaceæ, &c., but even at this period is frequently observed in company with the Common Gull in fields adjoining the shore, and watching the upturning of the land by the ploughs, where it greedily devours the larvæ of the Cockchaffer, and other coleopterous insects. The eggs of this bird are well-flavoured, having no fishy taste, and, when boiled hard, cannot easily be distinguished from those of the Lapwing, for which they are sometimes substituted. The young are also eaten, although not held in such estimation as we are told they formerly were, when great numbers were annually taken and fattened for the table, and when the *Gullery* (or summer resort of this species) produced a revenue of from L. 50 to L. 80 per annum to the proprietor. These birds are very regular in their *migratory* movements (for such their departure to and from the sea-coast may properly be termed), and I am informed by a gentleman upon whose property is a piece of water annually visited by a considerable colony, that their return in spring may almost be calculated upon to a day. In Northumberland they have for many years past enlivened the precincts of a large pond at Pallinsburn, the seat of A. ASKEW, Esq., from whence flocks (in consequence of the increase produced by the protection afforded during the breeding season) have at different times detached themselves to such other situations in the neighbourhood as possessed suitable facilities for reproduction. The note of the Black-headed Gull is a hoarse cackle, which, from its effect when quickly repeated, has been compared to a laugh, and has given rise to its specific appellation. Its flight is easy and buoyant, and when on wing it is readily distinguished from

any of the other species by the whiteness of the middle part of its primary quills.

PLATE 92. Represents this bird of the natural size, and in the summer or nuptial plumage.

Head, chin, and throat, dark hair-brown. At the posterior angle of the eye is a spot of white. Eyelids and bill deep crimson-red, the latter measuring one inch and two-eighths from the forehead to the tip. Mantle, scapulars, and lesser wing-coverts pale pearl-grey. Outer border of the wings, greater coverts, rump, and tail, pure white. First quill-feather having the lower part of the outer web, the tip, and outer margin of the inner web, black; the rest of it white. The three next quills have the greater part of their outer webs white; their ends (except the extreme point, which is white) and half their inner webs, black, passing into blackish-grey near the bases of the feathers. The remainder of the quills are pearl-grey, marked with black, as in the preceding. Under plumage white, having, in some specimens, a slight rosy tint. Legs and toes deep arterial blood-red.

General description.

Summer Plumage.

In winter, or after casting the hair-brown hood, the head and throat are of a pure white, except a small spot of blackish-grey at the anterior angle of each eye, and another of the same colour upon the auriculars. The bill and legs also lose a little of the intensity of hue that distinguishes them in summer.

Winter Plumage.

The young of the year, previous to the autumnal moult, have the head and occiput of a yellowish-brown, and the auriculars and space behind the eyes white. Lower part of the neck and under plumage white, with a faint blush of pink. Mantle, scapulars, and lesser wing-coverts broccoli-brown, the feathers being edged with pale yellowish-brown. Lower part of the back, and basal part of the tail, white, with a broad bar of clove-brown

Young.

occupying the tips of the feathers. Greater wing-coverts grey. Quills having their outer webs and tips black, their inner ones white. Outer ridge of the wings white. Base of the bill grey, tinged with flesh-red, the point darker. Feet and toes yellowish-grey.

After the autumnal moult the head becomes white, streaked with grey, and the spots before each eye, and upon the ear-coverts a deep clove-brown. The mantle acquires the pearl-grey tint; but the wing-coverts continue to be varied with brown and yellowish-white. The tail also retains the dark bar at its tip.

COMMON GULL.

LARUS CANUS, Linn.

PLATE XCIII.

- | | | |
|--------------------------------|---|--|
| Adult in
Summer
plumage. | { | <p><i>Larus canus</i>, Linn. Syst. 1. 224. 3.—<i>Gmel.</i> Syst. 1. 596.—<i>Lath.</i> Ind. Orn. 2. 815. sp. 9.—<i>Steph.</i> Shaw's Zool. 13. 198.—<i>Flem.</i> Br. Anim. 1. 140. No. 228.—<i>Faun.</i> Amer. Boreal 2. 420. No. 185.</p> <p><i>Larus cinereus minor</i>, <i>Raii</i> Syn. 127. A. 3.—<i>Will.</i> 262. t. 76.</p> <p><i>Gavia cinerea</i>, <i>Brisson.</i> Orn. 6. 175. 8. t. 16. f. 1.</p> <p>Mouette à pieds bleus, <i>Temm.</i> Man. d'Ornith. 2. 771.—<i>Cuv.</i> Reg. Anim. 1. 519.</p> <p>Sturm-meve, <i>Meyer</i>, Tasschenb. Deut. 2. 475.</p> <p>Common Gull, <i>Br.</i> Zool. 2. 538. No. 249.—<i>Arct.</i> Zool. 2. No. 458.—<i>Will.</i> (Angl.) 345. t. 76.—<i>Lath.</i> Syn. 6. 378. 8.—<i>Lewin's</i> Br. Birds, 6. pl. 215.—<i>Mont.</i> Ornith. Dict. and Sup.—<i>Shaw's</i> Zool. 13. 198.</p> <p>Gull, <i>Rennie's</i> Mont. Orn. Dict. 234.</p> |
| Winter
plumage. | { | <p>Common Gull, <i>Bewick's</i> Br. Birds, ed. 1826, p. t. 216.</p> <p>Mouette à pieds bleus, ou Grand Mouette cendrée, <i>Buff.</i> Ois. 8. 428.—<i>Id.</i> Pl. Enl. 977.</p> |
| Young after
first Molt. | { | <p><i>Larus hybernus</i>, <i>Gmel.</i> Syst. 1. 596.</p> <p><i>Gavia hyberna</i>, <i>Brisson.</i> 6. 189. 12.</p> <p><i>Larus fuscus</i>, seu <i>hybernus</i>, <i>Raii</i> Syn. 130. A. 14.—<i>Will.</i> 266. t. 66.</p> <p>La Mouette d'Hiver, <i>Buff.</i> Ois. 8. 437.</p> <p>Winter Mew, or Cuddy-moddy, <i>Penn.</i> Br. Zool. 2. 537. No. 248.—<i>Will.</i> (Angl.) 350. t. 66.—<i>Albin's</i> Birds, 2. pl. 87.—<i>Lath.</i> Syn. 6. 384. 13.—<i>Lewin's</i> Br. Birds, 6. pl. 210.—<i>Mont.</i> Orn. Dict. and Sup.</p> |

PROVINCIAL—Sea-Mall, Sea-Mew.

IN dimensions, the Common Gull rather exceeds the preceding species, being about sixteen inches long, whereas the

other measures scarcely more than fourteen. The tarsi and the naked part of the tibiae are also longer, and the bill, which is deeper and more compressed, has the angle of the lower mandible more conspicuously prominent, in which points it shews a closer affinity to the larger species of Gulls. It is very generally distributed throughout the kingdom, and is perhaps more numerous than the Black-headed Gull, though the supposition may in part arise from its habit of frequenting the interior of the country almost through the whole year in search of worms, the larvæ of coleopterous insects, and other similar food, by which it is brought oftener under observation, and in districts but seldom visited by the other species. Besides this mode of subsistence, it preys (when residing upon the coast) upon fish, crustaceæ, and molluscous shell-fish; and, to prove its omnivorous appetite, it will (when in a confined state, which it bears without impatience) eat bread, and MONTAGU mentions that one which he kept for some years, in defect of fish or worms, would pick up dry grain: It breeds upon the coast on rocks overhanging the sea, and sometimes on islands, or on the shores of lakes, as I have found, in two or three instances, in the Western Highlands of Scotland. At St Abb's Head, a bold and rocky headland of Berwickshire, these birds are very numerous during the breeding-season, and occupy the whole face of the cliff. This is at no great distance from the Fern Islands, yet they are never known to haunt that locality, the resort of their congener the Lesser Black-backed Gull, and of several species of Terns.—The nest is formed of sea-weed, dry sea-grass, &c., and the eggs, two or sometimes three in number, are of a pale oil-green or a yellowish-white colour, blotched irregularly with blackish-brown and grey. This species requires two years to attain maturity, the plumage of the first year resembling that of some of the larger Gulls, viz. clove-brown, having the feathers edged with yellowish or greyish-white, and the tail terminated by a broad black bar. This livery at each moult gradually gives place to the pure

Food.

Nest, &c.

white and pearl-grey, the characteristic colours of the adult bird, and the change is completed as soon as the caudal band is entirely obliterated. The Common Gull has a wide geographical distribution, and during the summer is met with in most of the arctic regions, inhabiting, according to Dr RICHARDSON, those of North America, as well as of the European and Asiatic continents. In winter it quits the higher latitudes, and migrates southward, spreading its numbers along the coasts of a large proportion of the temperate parts of Europe.

PLATE 93. Represents this bird in the adult state, and in its winter plumage.

**General
description.**

Bill about one inch and a half long, bluish-green at the base, passing into ochre-yellow towards the point, with the gape orange-red, and the naked circle round each eye reddish-brown. Head, occiput, nape, and sides of the neck, white, streaked with broccoli-brown. Under plumage, rump, and tail, pure white. Mantle, scapulars, and wing-coverts, fine pearl-grey. Greater quills black towards their tips, which are white, the two first having also a large white spot within the black. Legs and feet greenish-grey, with a tinge of flesh-red.

**Winter
Plumage.**

**Summer
Plumage.**

In the spring the head and neck lose the streaks of brown, and become of an immaculate white. The bill changes to a deeper yellow, and the eyelids assume a bright vermillion-red colour. In other respects the plumage remains as in winter.

Young.

The young, when they first take wing, have the chin white, and the head, neck, and under plumage, greyish-white, marbled with pale clove-brown. In front of the eyes is a patch of deep clove-brown. Upper plumage clove-brown, each feather being edged with greyish-white, and upon the wing-coverts with yellowish-white. Greater wing-coverts and quills blackish-grey. Rump and basal part of the tail, white, the other part black,

with a greyish-white termination. Legs and toes greyish-white, tinged with flesh-red. Base of the bill livid, or flesh-red; the tip blackish-brown.

After the first autumnal moult, a few grey feathers appear upon the mantle, and the greater wing-coverts acquire the same tint. The head and under parts become whiter, the crown, the back part of the neck, the breast, and flanks remaining streaked with pale clove-brown. After the second autumnal moult, the mantle acquires its permanent pearl-grey colour, and the quills their characteristic markings; but some clove-brown spots remain upon the wing-coverts, and the caudal bar is still distinguishable. These signs of immaturity disappear at the next vernal moult, after which the bird merely undergoes the mature changes incident to the seasons of the year.

KITTIWAKE.

LARUS RISSA, Linn.

PLATE XCIV.

Larus Rissa, Linn. Syst. 1. 224. 1.—*Gmel. Syst.* 1. 594.—*Flem. Br. Anim.* 1. 141. No. 229.

Larus tridactylus, Lath. Ind. Ornith. 2. 817. 11.—*Faun. Amer. Boreal.* 2. 423. No. 188.

Rissa Brunnichii, Steph. Shaw's Zool. 13. 181. pl. 21.

Mouette Tridactyle, Temm. Man. d'Ornith. 2. 774.

Kittiwake, Penn. Br. Zool. 2. 539. No. 250.—*Arct. Zool.* 2. No. 456.—*Lath. Syn.* 6. 393. 19.—*Mont. Orn. Dict. and Sup.*—*Bewick's Br. Birds*, ed. 1826, p. 3. 218.

Brunnich's Kittiwake, Shaw's Zool. 13. 181. pl. 21.

Larus Tridactylus, Linn. Syst. 1. 224. 2.—*Gmel. Syst.* 1. 595.

Gavia cinerea, Brisson. Orn. 6. 185. 11. t. 17. f. 2.

La Mouette cendrée tachetée, Buff. Ois. 8. 424.—*Id. Pl. Enl.* 387.

Tarrock, Penn. Br. Zool. 2. 540. No. 251.—*Arct. Zool.* 2. 533.—*Lath. Syn.* 6. 392.—*Id. Sup.* 208.—*Lewin's Br. Birds*, 6. pl. 213.—*Mont. Ornith. Dict.*

Young Kittiwake, *Bewick's Br. Birds*, p. t. 220.

PROVINCIAL.—Annet, Kishifalik.

Old in all
states of
plumage.

Periodical
visitant.

Dr FLEMING, in his History of British Animals, has given the Kittiwake as a resident species, but has not mentioned any authority for the statement. My own observations, I must confess, are at variance with this assertion, nor do I find that it has been admitted as such by any other of our ornithological writers. It appears, on the contrary, to be a summer visitant, making its first appearance upon our coasts about the end of April, and departing soon after the duties of reproduction have been effected, that is, in the early autumnal months. Its distribution, during its sojourn with us, is confined to the coast of Scotland and some of the northern English counties, and, from the facts I have been able to collect, it seems to be more abundant upon the eastern than on the opposite side of the kingdom, which may perhaps be attributed to the line of its migrative flight from the eastern parts of Europe, to which shores the great body of those that breed here seem to retire in winter. In the south of England it is of very rare occurrence, and MONTAGU mentions only two instances in which it had come under his observation. It is a bird of wide distribution, extending over the greater part of Europe up to very high latitudes, over the northern regions of Asia, a great portion of the North American continent (where RICHARDSON says it abounds on the lakes in the interior of the fur countries), and the coasts of the Pacific, as well as the shores of the Arctic Seas, to which latter it annually retires to breed. It differs from the more typical Gulls in the imperfect development of its hind toe, which is small, and without any claw, on which account it has been made the type of a genus called *Rissa* by Mr STEPHENS. The tarsi are also shorter and weaker in proportion to its bulk, and the legs are placed further behind the centre of the body, in which points it approaches to the Petrels, and connects the Gulls more immediately with that group. Its habits are also rather similar to the former, for unlike to *Larus canus*, *L. ridibundus*, and some others, it never advances inland in search of worms, grubs, &c., but procures

the whole of its subsistence, being fish, crustaceæ, and other aquatic animal food, from the element over which it is seen almost constantly sporting. From the shortness and position of its legs it is unable to walk or run upon land with the same ease as its congeners, on which account, added to the necessity of supplying it with a fish diet, I have found it more difficult to be kept in a state of confinement than any of the others. Great numbers of this species breed upon the Bass Rock in the Frith of Forth, on Fowls-Heugh near Stonehaven, and other precipitous rocks on the eastern coast of Scotland. In England they breed at Flamborough Head in Yorkshire, and at the Fern Islands on the Northumbrian coasts, where they select the small clefts and narrow ledges of the perpendicular and detached basaltic rocks, called *The Pinnacles*, whose summits are occupied by the Guillemot and Razor-Bill. Upon these, although in many instances not above a hand's-breadth wide, they build their nests (of sea-grass and other dry materials), and rear their young in security. The latter seem to be instinctively aware of their perilous situation, where sometimes the least movement would precipitate them into the waves beneath, and are observed seldom to change their attitude in the nest till sufficiently fledged to be enabled to provide for their own safety. The eggs, usually two in number, are of a greyish-white, slightly tinged with wood-brown, and blotched with dark or blackish brown and purplish-grey. During incubation the females are very tame, and will sit upon their eggs or callow young, though closely approached; at the same time the males continue to fly round in circles, uttering the frequently repeated cry, from the sound of which they have obtained their common English name *Kittiwake*. In the young state this bird was formerly called the *Tarrock*, which was considered to be a distinct species; but its history is now better known, and the changes it undergoes from its earliest age to maturity (which is not attained till after the second autumnal moult) have been correctly ascertained.

Food.

Nest, &c.

PLATE 94. Fig. 1. Represents the Adult Bird in summer plumage.

General description.

Adult Bird.
Summer Plumage.

Bill one inch and a half long from the forehead to the tip, to which latter it arches gradually; of an intermediate colour between lemon and wax-yellow. Gape reddish-orange. Orbits of the eyes the same. Head, neck, under plumage, and tail, pure white. Mantle, scapulars, back, and wing-coverts, fine pearl-grey. Exterior quill, having the whole of its outer web and the end, black, the second with the end and greater part of the outer web the same; the third with its end and but a small part of its outer web the same; the fourth and fifth having the ends only black, and being terminated by a small spot of white. Legs and toes greenish-black.

Fig. 2. Represents this Gull after the first autumnal moult.

Yearling Bird.

Auriculars, hind part of the head, and spot in front of the eyes, blackish-grey. Chin and under parts white. Mantle deep pearl-grey. Wing-coverts (particularly near the ridge of the wing and the shoulders) spotted with clove-brown. The three first quill-feathers black, except where a band of white margins the inner webs. Tail having the outmost feathers on each side white, the rest with a blackish-brown bar at the tip, about three quarters of an inch in width. Bill tinged with blackish-green. Legs and toes deep oil-green.

Young.

The young of the year, that is, before the first general moult, have the spot in front of the eyes, the auriculars, and the nuchal crescent, deep blackish-grey. The back deep pearl-grey. The upper ridge of the wing greyish-black. The scapulars and tertials, with part of their outer webs, black. Tail, with the exception of the outmost feather on each side, having a broad black bar along its end. Bill black. In this state, or a little farther advanced in age, it is figured in the later editions of BEWICK's British Birds.

IVORY GULL.

LARUS EBURNEUS, Gmel.

PLATE XCIV.*

Larus eburneus, *Gmel. Syst.* 1. 596. — *Lath. Ind. Orn.* 2. 816. sp. 10. — *Edmonst.* in *Mem. of Wern. Soc.* 4. 561. — *Sabine* in *Trans. Linn. Soc.* 12. 548. — *Steph. Shaw's Zool.* 13. 195.

Larus candidus, *Flem. Br. Anim.* 1. 142. No. 3.

La Mouette Blanche, *Buff. Ois.* 8. 422. — *Id. Pl. Enl.* 994.

Mouette Blanche, ou *Senateur*, *Temm. Man. d'Ornith.* 2. 769.

Senator, *Ray's Syn.* 126. 1.

Ivory Gull, *Penn. Arct. Zool.* 2. 457. — *Lath. Syn.* 6. 377. — *Shaw's Zool.* 13. 195. — *Bewick's Br. Birds*, ed. 1826, p. t. 214.

THE immaculate white which distinguishes the adult plumage of the Ivory Gull, renders it one of the most beautiful of the genus. In this country it is only known as a rare visitant, and the first authenticated instance of its capture is that mentioned by LAURENCE EDMONSTON, Esq. as published in the fourth volume of the *Memoirs of the Wernerian Society*, where the bird (which appears to have been one of the second year) is stated to have been shot in Balta Sound, Shetland, in December 1822. Since that time it has been killed, also in an immature state, in the Frith of Clyde. It is a native of the northern Arctic Regions, and is found in very high latitudes, being common in Greenland and Spitzbergen, where it breeds upon the rocks and cliffs that overhang the sea. Captain SABINE states it to be abundant in Baffin's Bay, and Dr RICHARDSON also mentions it as frequenting Davis's Straits, and that it was discovered breeding in great numbers on the high perforated cliffs that form the extremity of Cape Parry in latitude 70°. Except during the breeding season, it is generally seen out at sea, often in company with the Fulmar, and is observed to be, like it, a constant attendant upon the whale-fishery, greedily feeding upon the blubber, which, with other carrion and animal matter, constitutes its food. It is stated to possess little of that shy

Rare visitant.

Food.

disposition for which so many of the tribe are remarkable, admitting of a near approach, particularly when engaged in feeding, and is therefore easily killed. Its voice is strong and harsh. The colour of its eggs remain undescribed.

PLATE 94 *. Represents an adult bird of the natural size.

General
description.
Adult
Bird.

Bill stout, measuring from the forehead to the tip one inch and three quarters; wax-yellow at the base, passing towards the point into ochre-yellow. Orbits of the eyes red. Legs black, with the tibiae feathered nearly to the tarsal joint. Hind part of the tarsi covered with rough scales. Membranes of the toes deeply scalloped. Hind toe short, with a strong nail. Entire plumage pure snow-white. Wings, when closed, extending beyond the tip of the tail.

Young.

In the young state, the forehead, region of the eyes, and chin, are blackish-grey. Back, scapulars, and wing-coverts, white, spotted and barred with brown. The ends of the primary quills, and tip of the tail, are barred with the same. As the bird advances in age, the brown spots and bars gradually decrease at each moult, and it is supposed to be perfectly matured in two years and a half.

GLAUCOUS GULL.

LARUS GLAUCUS, Brunn.

PLATE XCIX.

Larus glaucus, Brunn. Orn. Boreal. No. 148.—*Gmel. Syst.* 1. 600.—*Lath. Ind. Orn.* 2. 814. sp. 7.—*Sabine* in *Linn. Trans.* 12. 543. No. 19.—*Steph. Shaw's Zool.* 13. 189.—*Flem. Br. Anim.* 1. 139. No. 223.—*Faun. Amer. Boreal.* 2. 416. No. 181.

Le Burgermeister, Buff. Ois. 8. 418.

Goëland Burgermeister, Temm. Man. d'Orn. 2. 757.

Weisschwingige Meve, Bechst. Naturg. Deut. 4. 662.

Glaucous Gull, Penn. Arct. Zool. 2. 632. 13.—*Id. Sup.* 70.—*Lath. Syn.* 6. 374. 4.—*Bewick's Br. Birds*, ed. 1826, p. t. 209. and *Young*, p. t. 212.—*Shaw's Zool.* 13. 189.

Burgermeister Gull, Flem. Br. Anim. 1. 139. No. 223.

Iceland Gull, Edmonston in *Mem. of Wern. Soc.* 4. 176. and 503.

THIS large and powerful species was first noticed as a winter visitant in Shetland in 1809, by LAURENCE EDMONSTON, Esq., who afterwards published an interesting account of its habits and distinguishing characters in the fourth volume of the Memoirs of the Wernerian Society, to which paper, from its length, I beg to refer my readers. Subsequent observation has proved it to be not uncommon in that remote district, both in the immature and perfect state, during the winter; but it regularly migrates on the advance of spring to higher northern latitudes, for the purpose of reproduction. It occasionally extends its equatorial flight as far to the southward as the Northumbrian coast, where several have at different times come under my inspection in a recent state. These, with the exception of one in the adult winter plumage (now in my collection), have all been young birds; some, from their spotted and brown appearance, the young of the year; others, where the markings had become fainter, and the ground of a purer white; such as had undergone one or perhaps two autumnal moultings. The Glaucous Gull is pronounced by TEMMINCK to be the largest of the tribe, but my own measurements of several individuals, with the testimony of Captain SABINE and other writers who have described the species, shew that its average dimensions in length and extent of wing are inferior to those of the Great Black-backed Gull (*Larus marinus*). Its form is perhaps thicker and more compact, and its weight may sometimes exceed that of the other; though I possess a specimen of the latter bird which weighed two ounces more than any of the Glaucous Gulls that have come under my observation. By Dr RICHARDSON it is described as a common species during the summer, in Greenland, Baffin's Bay, and the Polar Seas, where it breeds upon the precipitous rocks which line those coasts. Its eggs are stated to be of a pale purplish-grey, with scattered spots of umber-brown and subdued lavender-purple. It is a bird of voracious appetite, and preys not only upon fish and the smaller water-fowl, but

Periodical
visitant.

Eggs.

Food. devours carrion and offal of every kind. A young bird, now in my collection, was killed upwards of a mile inland, feeding upon the carcass of a dead horse. Its swallow is also very capacious, as appears from the fact, that an individual of this species, killed during Captain Ross's expedition, disgorged a Little Auk when it was struck, and, on dissection, another was found in its stomach. When at rest, and not excited by the cravings of hunger, its manner is grave and silent, not exhibiting the vivacity and clamorousness that distinguish many of the other species; but though apparently inactive, it is still wary in permitting a near approach, in general keeping carefully out of the range of gunshot. Its flight is easy and graceful, appearing even more buoyant than that of other Gulls, which Mr EDMONSTON is inclined to attribute to the position in which the wings are kept, as they seem, when in action, to be more extended than in the other species. When roused, it soars at a respectful distance round the object of its alarm, uttering at intervals a loud and hoarse scream, easily distinguishable from that of the Black-backed Gull, or of its other nearly allied congeners. In Shetland the young of this, as well as of the next species, are indiscriminately called *Iceland Scorie* (that is, young Iceland Gull).

PLATE 99. represents the mature Bird in winter plumage, and of the natural size, from a specimen killed on the coast near Holy Island, in February 1830.

General
description.
Adult bird.
Winter
plumage.

Bill, from the forehead to the tip, two inches and a half long; wine-yellow, with the angular projection of the lower mandible arterial blood-red. Head and neck white, streaked with pale clove-brown, but having the chin immaculate. Under plumage, rump, tail, tips of the secondaries, tertials, and greater quills, pure white, with a silky lustre. Mantle, wing-coverts, and basal part of the quills fine pearl-grey. Legs and toes livid flesh-red. Wings, when closed, not reaching to the end of the tail.

In summer the head and neck are pure white; the grey streaks disappearing on the approach of spring. Summer plumage.

In the young state the ground colour of the plumage is a greyish-white, with a slight tinge of wood-brown, barred and spotted all over with grey or broccoli-brown. Tail irregularly spotted with pale brown. The shafts of the primaries *white*, and the whole of the webs greyish-white. Bill livid at the base, and the tip blackish-brown. Legs and feet pale flesh-coloured red.

After the second moult the ground of the plumage becomes whiter, and the spots and bars decrease in size and hue. The next change produces some of the pearl-grey feathers upon the mantle, and the under plumage and tail become white. At the succeeding moult, that is, at the age of three years, the bird is matured, and undergoes no further change, except the periodical one, upon the head and neck.

ICELAND GULL.

LARUS ISLANDICUS, Edmonston.

PLATE XCVIII.

Larus islandicus, Edmonston, in Mem. of Wern. Nat. Hist. Soc. 4. 506.
—Flem. Br. Anim. i. 139. No. 224.

Larus argentatus, an Arctic var. *Sabine*, in Trans. Linn. Soc. 12. 546. No. 20.—*Temm. Man. d'Ornith.* 2. 764. "un variété qui paraît propre aux contrées polaires."

Larus leucopterus, *Buonap.* Syn. No. 301.—*Faun. Amer. Boréal.* 2. 418. No. 183.

Larus arcticus, *Macgillivray*, Trans. Wern. Soc. 5. 268.

Larus glaucoides, *Temm. Man.*

White-winged Silvery Gull, *Richardson and Swainson.*

Iceland Gull, *Flem. Br. Anim.* 1. 139. No. 224.

IN MR EDMONSTON'S first notice of the *Glaucous Gull*, under the name *Larus islandicus*, a suspicion is started, from the difference of size existing between individuals of the newly observed kind, that there might be two species, having such a rela- Periodical visitant.

tion to each other as that between the Greater and Lesser Black-backed Gulls (*L. marinus* and *L. fuscus*). This, upon further investigation, was found to be actually the case; and some interesting remarks upon the new species, by the same gentleman, were afterwards published in the latter part of the fourth volume of the Wernerian Society's Memoirs, where he has appropriated to it the specific title of *Islandicus*, having then ascertained that the larger species previously noticed, and to which he had applied the term, was already recorded, and generally known by the name of *Larus glaucus*. In point of priority, therefore, this name ought to be adopted for the present species, in preference to that of *Larus arcticus* given to it by Mr MACGILLIVRAY, or that of *L. leucopterus*, under which it is described by RICHARDSON and SWAINSON, in the Fauna Americana Borealis, and by the Prince of Musignano, in his Synopsis. Captain SABINE, in his Memoir on the Birds of Greenland, in the twelfth volume of the Linnean Transactions, has described the same bird under the title of *Larus argentatus*, and this in deference to the opinion of Monsieur TEMMINCK, who at that time considered it as a variety of the *Herring Gull*, occasioned by the rigours of a polar climate. The fact, however, of the true *L. argentatus* having been found with its characteristic markings unchanged in those regions, together with the perfect and undeviating whiteness of the wings of the other bird, and the difference of proportions observable in the bills of the two species, might justly have made the former author hesitate before yielding even to the authority of a naturalist so deservedly eminent. The present species, in all its states of plumage from adolescence to maturity, bears the closest resemblance to the Glaucous Gull, and can only be distinguished by its striking inferiority of size, and by the greater length of its wings, which reach, when closed, upwards of an inch beyond the end of the tail; whereas in the other bird they scarcely reach that part. Like its prototype it is a winter visitant to the Shetland Isles and the northern parts

of Scotland, and a few occasionally stray as far southward as the Northumbrian coast, where I have obtained three or four specimens, but all in the immature plumage. Its habits are stated by Mr EDMONSTON to be more lively and active than those of the Glaucous Gull, and it displays more elegance of form. It is a common species in the Arctic Regions, and is mentioned by SABINE and RICHARDSON as being plentiful in Baffin's Bay, Davis Straits, and Melville Island. It is also common upon the Iceland coast, to which it is probable many of those that winter with us, and in similar latitudes, retire to breed. It feeds upon fish, the flesh of whales, Food. and other carrion, and when upon our shores, is sometimes seen in company with the Black-backed Gull.

PLATE 98. represents the immature Bird of the natural size, from a specimen obtained on the Northumbrian coast.

Bill, from the division of the feathers upon the forehead to the tip, two inches long; pale flesh-red, or livid, at the base, with the tip blackish, or dark horn colour. Ground colour of the entire plumage pale yellowish-grey; the feathers being barred and mottled with pale broccoli-brown. Quills greyish-white, with a slight tinge of broccoli-brown. Tail pale broccoli-brown, marbled with white. Legs and toes pale livid flesh-red. Tarsi two inches and a quarter long. Irides pale yellowish-grey.

General
descrip-
tion.

Immature
bird.

Another specimen in my collection, that was killed in February 1832, has the ground colour of the plumage nearly white. Head and neck faintly rayed with very pale broccoli-brown. Wing-coverts and back varied with broccoli-brown, but with the bars narrower, and at greater distances than in the bird described above. Quills nearly pure white. Tail white, varied with irregular streaks and bars of broccoli-brown. The under plumage marbled with pale broccoli-brown and white. Bill, legs, and

feet as in the former. This appears to be a bird that has undergone two general autumnal moultings.

Adult. The mature plumage resembles that of the Glaucous Gull; the head, neck, tail, and under parts being of a pure white. Mantle and wing-coverts pale pearl-grey. Quills with their shafts and tips pure white, passing into pale pearl-grey towards the base. In winter the head and neck become streaked with grey.

HERRING GULL.

LARUS ARGENTATUS, Brunn.

PLATES XCVI. AND XCVI*.

- Larus argentatus*, Brunn. Orn. Boreal. No. 149.—*Gmel.* Syst. 1. 600. sp. 18.—*Flem.* Br. Anim. 1. 140. No. 227.—*Shaw's* Zool. 13. 148, but not all the synonyms, some of them belonging to the Iceland Gull.
- Larus glaucus*, Temm. Man. d'Ornith. 1st ed. 493.
- Larus marinus*, var. B. Lath. Ind. Orn. 2. 814. sp. 6.
- Le Goëland à Manteau gris et blanc, Buff. Ois. 8. 421.
- Goeland à Manteau Bleu, Temm. Man. d'Orn. 2. 764.
- Weissgraue Meve, Meyer, Tasschenb. Deut. 2. 471.
- Herring Gull, Penn. Br. Zool. 2. 535. No. 246. pl. 88, but not the synonyms.—*Mont.* Orn. Dict. and Sup. but not the synonyms, which belong to the Lesser Black-backed Gull.—*Bewick's* Br. Birds, ed. 1826, pt. 207.—*Rennie's* Mont. Orn. Dict. but not the synonyms.—*Flem.* Br. Anim. 1. 140. No. 227.
- Silvery Gull, Penn. Arct. Zool. 2. 533. 6.—*Lath.* Syn. 6. 375.
- Wagel Gull, Br. Zool. 2. 536. No. 247. A. pl. 88.—*Will.* (Angl.) 349. t. 66*.

ALTHOUGH the Herring Gull is an indigenous, and, upon many parts of our coast, a common species, its history has been involved in much confusion, by PENNANT, MONTAGU, and others, having mistaken for it (and quoted as a synonym) the *Larus fuscus* of LINNÆUS, which, from the specific character of "*pedibus flavis*," clearly refers to the Lesser

* This name is also applied to the young of the Greater and Lesser Black-backed Gulls; all of them bearing a near resemblance to each other in the immature plumage.

Black-backed Gull. LATHAM, in his Index Ornithologicus, has unfortunately added to this confusion, by adopting the *Herring Gull* of the British Zoology as a synonym of *L. fuscus*, and describing the *L. argentatus* of BRUNNICH (the true Herring Gull), as merely a variety of the Greater Black-backed Gull (*Larus marinus*). This misapplication of terms has been rectified by TEMMINCK, in the second edition of his "Manuel d'Ornithologie," and by Dr FLEMING, in his History of British Animals, where the distinctive characters of each are satisfactorily pointed out.—The partial distribution of the various species of Gulls, especially during the breeding season, cannot have escaped the notice of those interested in ornithological pursuits; and to this must be attributed the comparative rarity of the present species upon the Northumbrian coast, where, however, its place is amply supplied by the Lesser Black-backed Gull. On the western side of the island, particularly on the coast of Wales, and along the Bristol Channel, the Herring Gull is, on the contrary (as we learn from MONTAGU), the predominant species, being to *L. fuscus* in the proportion of fifty to one. It there breeds in immense numbers, in an island off St David's Headland, placing its nest, which is composed of dried grasses, among the herbage and loose stones. The eggs, two or three in number, are of a deep oil-green, blotched and spotted with blackish-brown. Like the other large Gulls, it feeds upon fish, and other marine produce, such as star-fish, crabs, and various crustaceæ; and is observed to trample the soft sand, by moving its feet alternately on the same spot, in order to bring to the surface the shrimps and worms from beneath. It also devours the eggs of the other sea-fowl; and upon the Fern Islands I have almost annually observed two or three of these birds, apparently barren, that subsisted by plundering the nests of its congeners, and the Terns, Guillemots, &c., on which account the name of the *Egg-Gull* has been there bestowed. Dr FLEMING mentions having found a quantity of wheat in the stomach of a bird of this species.

Nest, &c.

Food.

When arrived at maturity, which is not till after the third year, the cry of the Herring Gull, particularly during the breeding season, is very loud and piercing, and very unlike that of *L. fuscus*; is readily uttered upon any alarm, and promptly attended to as a signal by all other birds within hearing. If taken when young, or even afterwards, it soon becomes reconciled to confinement, and will grow tame; in which state it can accommodate itself to a diet of worms, raw flesh, or any other animal matter. It is numerous scattered throughout a great part of Europe, especially on the coasts of our own island, Holland, and France; but in the high northern latitudes is of rarer occurrence than many of the other Gulls.

PLATE 96*. represents this species of the natural size, and in the summer plumage.

General
description.

Adult bird.

Bill, from the division of the feathers on the forehead to the tip, two inches and one-eighth long; colour ochre-yellow. The angle of the lower mandible orange-red. Orbits of the eyes orange. Head, neck, whole of under plumage, tail, and ridge of each wing, pure white. The six greater quills crossed by a black bar, which in the first occupies three-fourths of the quill, but becomes rapidly narrower through the rest, and is scarcely an inch broad upon the sixth. First quill having a white tip (for two inches in some specimens), marked with a small black spot on each web near the extreme point; the second with two spots on each side of the shaft, its tips and those of the next four quills being white. Tertiaries and secondaries tipped with white. Irides pale gamboge-yellow. Legs and feet pale ash-grey, tinged with flesh-red. Tarsus about two inches and a-half in length.

PLATE 96. represents the immature Bird.

♂. Bill blackish-grey. Irides dark. Head, neck, and under
 ♀. plumage greyish-white, streaked and marbled with pale

broccoli-brown; the chin almost immaculate, and of a purer white. Upper plumage a mixture of grey, clove-brown, and pale wood-brown. Quills *uniform greyish-black*. Tail having its base marbled with white and clove-brown, the remainder plain clove-brown, with the exception of the extreme tip, which is white. Legs and toes pale flesh-red.

After the second general moult the markings are the same, but paler; and the basal part of the tail whiter. Second Year.

At the succeeding moult, the pale grey or mature feathers begin to shew themselves upon the mantle, and the tail feathers nearly lose the black bar. The bill and irides also gradually change colour to those of the adult bird. During the first and second years it is very difficult to distinguish this and the young of the Lesser Black-backed species from each other. Third Year.

GREAT BLACK-BACKED GULL.

LARUS MARINUS, Linn.

PLATE XCVII.

Larus marinus, Linn. Syst. 1. 225. 6.—Gmel. Syst. 1. 598.—Brunn. No. 145.—Lath. Ind. Orn. 2. 843. sp. 5.—Flem. Br. Anim. 1. 140. No. 225. Steph. Shaw's Zool. 13. 186.

Larus niger, Briss. 6. 158. 1.

Larus maximus ex albo et nigro varius, Raii Syn. 127. A. 1.—Will. 261.

Le Goëland noir Manteau, Buff. Ois. 8. 405. t. 31.—Id. Pl. Enl. 990.—Temm. Man. d'Ornith. 2. 760.

Mantel Meve, Bechst. Naturg. Deut. 4. 653.—Meyer, Tasschenb. Deut. 2. 465.

Great Black and White Gull, Will. (Angl.) 334. t. 67.—Albin's Birds, 3. t. 94.—Low's Faun. Orcad. 116.

Black-backed Gull, Penn. Br. Zool. 2. 528. No. 242.—Arct. Zool. 2. No. 451.—Lath. Syn. 6. 371. 2.—Lewin's Br. Birds, 6. pl. 208.—

Bevick's Br. Birds, ed. 1826. p. t. 201.—Flem. Br. Anim. 1. 140. No. 225.

Great Black-backed Gull, Mont. Orn. Dict. and Sup.—Shaw's Zool. 13. 186.

Cobb, Rennie's Mont. Ornith. Dict. 92.

Larus naevius, Gmel. Syst. 1. 598.

Larus marinus junior, var. γ. Lath. Ind. Orn. 2. 314.

Le Goëland variée ou Grissard, Buff. Ois, 8. 413. t. 31.—Id. Pl. Enl. 266. } Young.

Breeding
places, and
eggs.

Food.

THE average size of this species exceeds that of the Glaucous Gull, although TEMMINCK has stated the latter to be the largest of the genus. It is met with, but by no means plentifully, upon most of our coasts; usually alone, or in pairs, and rarely in a flock of more than eight or ten together. Its breeding stations are on the Steep-holmes and Lundy islands in the Bristol Channel, Souliskerry in the Orkneys, the Bass Island in the Frith of Forth, and one or two other stations upon the Scottish coast. Its eggs, three or four in number, resemble those of the Herring and Lesser Black-backed Gulls in colour and markings, but are larger. This bird, like its congeners, is of a wary disposition, and must be taken by surprise, as it rarely admits of a sufficiently near approach. It is of very voracious appetite, and preys upon all kinds of animal substance that may happen to be cast on shore. It also keeps a close watch upon the Lesser Gulls, whom it drives from any food they may have discovered, appropriating the whole to itself: and MONTAGU mentions it as being a great enemy to the fishermen, as it will sever and devour the largest fish from their hooks, if left dry by the ebbing of the tide. Its flight is slow, but buoyant, without much exertion of the pinions, and, like other species, always opposed to the wind. Its voice is a strong and hoarse cackle, that may be heard at a great distance, when the bird is sailing in the air, and this is more frequently repeated during the spring and breeding season than at any other time. The young of this, and of the Herring and Lesser Black-backed species, have all been confounded together under the name of *Wagtail* (or *Gray*) *Gull*; the plumage of all three being very much alike till they attain maturity. The present species is common in many parts of the north of Europe, but does not appear to extend, at least in any considerable numbers, to very high latitudes: as Captain SABINE, in his *Memoir of the Greenland Birds*, states that it was only once seen in Baffin's Bay, and Dr ROBERTSON never mentions it.

PLATE 97. represents this Bird of the natural size, from a specimen that was killed upon the Northumbrian coast, in April 1828, when it still exhibited a few dark streaks upon the crown, and hind part of the neck, indicative of the winter plumage.

Bill, from the division of the feathers on the forehead to the tip, two inches and a half long; of a pale gamboge or primrose-yellow; the angular projection of the lower mandible orange-red, with a dusky spot in the centre.

General description.
Adult.
Summer plumage.

Head, hind part of neck, whole of the under plumage and tail, pure white. Mantle and wing-coverts greyish-black. Greater quills black; the first one tipped with white for upwards of two inches, the next having a white spot about an inch from the end, and the extreme tip white; the rest white only at their very points. Tertiaries and secondaries deeply tipped with white. Legs pale flesh-red, with a livid hue.

In the young state, the colours of the plumage, and their disposition, are very nearly the same as in the young of the Herring Gull, and the changes annually undergone are also similar.

Young.

LESSER BLACK-BACKED GULL.

LARUS FUSCUS, Linn.

PLATE XCV.

Larus fuscus, Linn. Syst. 1. 225. 9.—*Gmel. Syst.* 1. 599.—*Lath. Ind. Orn.* 2. 815. sp. 8, but not the English synonym.—*Steph. Shaw's Zool.* 13. 194.—*Flem. Br. Anim.* 1. 140. No. 226.

Goëland à pieds jaunes, *Temm. Man. d'Orn.* 2. 767.

Herrings-meve, *Bechst. Naturg. Deut.* 4. 658.

Gelbfussige Meve, *Meyer, Vog. Deut.* 2. Heft. 18.

Lesser Black-backed Gull, *Mont. Orn. Dict. and Sup.*, but not the synonyms which belong to the Herring Gull.—*Bewick's Br. Birds*, ed. 1826. p. t. 205.—*Shaw's Zool.* 13. 194.

Yellow-legged Gull, *Flem. Br. Anim.* 1. 140. No. 226.

PENNANT seems to have been the first of our authors who noticed this species as British ; for the bird he has described, as seen on the coast of Anglesea, and which he felt uncertain whether to rank as a distinct species, or only as a variety of *Larus marinus*, possesses the essential characteristic of the bright yellow legs, which distinguish it from its larger congener, as well as from the Herring Gull. Its characters were afterwards more fully detailed and established by MoxTAGU (in his Ornithological Dictionary and the Supplement), under the English title it now bears, though the Latin synonyms attached to it, and to his Herring Gull, are misquoted, and ought in fact to be reversed. This error he was led into by PENNANT and LATHAM, both of whom have confounded the Herring Gull with the *Larus fuscus* of LINNÆUS ; though the specific characters of "*dorso fusco, pedibus flavis*," manifestly pointed out the bird to which the appellation belonged. The present is a common species on many parts of our coast, abounding where the Herring Gull is only met with occasionally, or in small numbers. Thus upon the Northumbrian shore, and in several districts of Scotland, it is the prevalent kind, and may be found at all seasons of the year. It breeds abundantly on the Fern Islands, colonizing two of the largest and flattest, and never (as far as my observation goes), tenanting the tops or ledges of the precipitous rocks.—The nests are composed of a quantity of dried grass, and the three or four eggs are of a deep oil-green, blotched irregularly with brownish-black. The young, upon exclusion, are covered with a parti-coloured down of grey and brown, but this is rapidly hidden by the growth of the regular feathers, and in a month or five weeks they are able to take wing. These breeding places, or *galleries*, are sometimes at a considerable distance from the sea, a large one being in a morass on the moors, near the boundary between Northumberland and Cumberland. They are met with also on some of the islands in the fresh-water lakes of

Scotland; where Sir WILLIAM JARDINE and myself have obtained the eggs and young upon one of the islands of Loch Awe. In spring, towards the middle of April, when they begin to pair, the birds that breed upon the Fern Islands assemble every afternoon in large flocks upon the opposite mainland, and advance inland for four or five miles, alighting occasionally upon the pastures and newly sown corn-fields. At this time they are very clamorous, keeping up a continual concert, by uniting in their calls peculiar to the season, and which, when heard at a distance in a calm evening, have a wildness of sound that is far from being disagreeable. This Gull subsists on fish, and other marine animal food, and is often seen in pastures, or newly ploughed fields near the coast, in search of worms, larvæ, and insects. It readily submits to confinement, and may be reared from a tender age, as it thrives upon worms, or any kind of offal; and I have frequently kept it for the sake of witnessing the changes in its progress to maturity, which, as in the other large species, occupy three years. Its digestion is rapid, and its voracity very great, as the following circumstance will shew: An individual, that I kept in a garden, made no difficulty of swallowing whole young Plovers of both kinds, when fully half grown. In size this species equals the Herring Gull, but its bill is shorter and thicker in proportion. The young of both (as has already been observed) are so similar as to make it very difficult to distinguish them, particularly during the first or nestling plumage.

Food.

PLATE 95. Adult Bird of the natural size, and in summer plumage.

Bill ochre-yellow; angle of the lower mandible fine aurora-red. Irides gamboge-yellow; orbits of the eyes vermilion-red. Legs and feet clear saffron-yellow. Head, neck, under plumage, lower part of the back, and tail, pure white. Mantle and wing-coverts deep blackish-grey. The six greater quills black; the first with a

General
description.
Adult.
Summer
plumage.

Winter
plumage.

broad bar and the extreme tip white; the rest having only triangular white tips. Secondaries and tertials with white ends. In winter the head and neck are streaked with grey or pale broccoli-brown; the rest of the plumage remaining as in summer.

Young.

The young have been mentioned above; but may be known from those of *L. marinus* and *L. argentatus*, by the shorter bill, and the less livid hue of their feet and legs.

GENUS CATARACTES, RAY. SKUA.

GENERIC CHARACTERS.

BILL of mean length, strong, thick, compressed at the point; having the base of the upper mandible covered as far as the horny tip, with a cere; culmen rounded. Dertrum hard, convex, and hooked. Under mandible forming a salient angle from the symphysis, and fitting into the upper one. Tomia bending slightly inwards, sharp, and cutting. Nostrils lateral, placed immediately behind the dertrum, in the front of the cere, or soft corneous part of the bill, diagonal, narrow, anteriorly widest, and pervious.

Wings elongate, with the first quill-feather exceeding the others in length. Tail rounded, with the intermediate feathers more or less produced.

Legs having the lower part of the tibiae naked, covered in the back part with rough scales. Feet of four toes, three before and one behind. The front toes webbed; the hind toe very small, and articulated nearly on the same place with the front ones. Nails falcated, and sharp; the inner one being the strongest and most hooked.

By many of the earlier systematists, the Skuas were included in the Gulls, but as essential characteristics (not pos-

sessed by the former), are developed in their structure, particularly in the bill, feet, and tail, and as a marked difference also exists in their habits, it has been considered necessary to establish a distinct genus for their reception. This has been done by ILLIGER, in his *Prodromus*, under the generic name of *Lestris*, in which he has been followed by TEMMINCK, and several other writers; but as our countrymen, WILLOUGHBY and RAY, had previously separated them from the genus *Larus*, under the appellation of *Cataractes*, I have followed the rule so generally adopted by naturalists, that of acceding to priority of imposition. In the cereous or soft horny covering of the basal part of the bill, the acuminate feathers of the neck, and their strong hooked talons, the Skuas exhibit a distant affinity to birds of the raptorial order, and their bold disposition and daring habits are also in apparent accordance with this connexion. They are the determined enemies of the Gulls, whom they unceasingly persecute on the wing, in order to make them disgorge their half digested or recently swallowed food, and which is then adroitly caught by the former before it can reach the water. They also feed upon the flesh of the whale and other marine animal substances. An approach to the Petrels is seen in their general contour, and in the structure of their feet, the hind toe in some species consisting of little more than a nail. Their wings are long and pointed, and their flight, which is strong, and at times astonishingly rapid, is performed by successive jerks (in each of which a considerable curve is described), bearing but little resemblance to that of the true Gulls. They are natives of the Arctic Regions, and are found, particularly during the season of reproduction, in very high latitudes. The plumage of both sexes is alike, but some species undergo great changes in their progress to maturity.

COMMON SKUA.

CATARACTES VULGARIS, Flem.

PLATE C.

- Cataractes vulgaris*, *Flem.* Br. Anim. 1. 137. No. 221.
Cataractes Skua, *Stephens*, Shaw's Zool. 13. 215.
Larus Cataractes, *Linn.* Syst. 1. 226. 11.—*Gmel.* Syst. 1. 603.—*Lath.* Ind. Orn. 2. 818. sp. 12.
Catharacta Skua, *Brunn.* No. 125.
Lestris Cataractes, *Temm.* Man. d'Ornith. 2. 792.
Cataractes et Catharacta, *Raii* Syn. 128. A. 6.—*Will.* 265.
Le Goëland Brun, *Buff.* Ois. 8. 408.
Stercoraire Cataracte, *Temm.* Man. d'Ornith. 2. 792.
Brown Gull, *Albin's* Br. Birds, 2. t. 85.
Skua Gull, *Penn.* Br. Zool. 2. 529. No. 243.—*Aret.* Zool. 2. No. 531. A.—*Lath.* Syn. 6. 385. 14.—*Lewin's* Br. Birds, 6. pl. 211.—*Mont.* Orn. Dict. and Sup.—*Bewick's* Br. Birds, ed. 1826, p. t. 229.—*Rennie's* Mont. Orn. Dict. 463.
Common Skua, *Flem.* Br. Anim. 1. 137. No. 221.—*Shaw's* Zool. 13. 215.
Port Egmont Hen, *Cook's* Voy. 1. pp. 44, 272.

PROVINCIAL.—Sea-Eagle, Bonxie, Skui.

THIS bird, which appears to be the largest of its genus, is of compact form, and bold disposition; which latter quality is more especially seen during the season of reproduction, a period when the instinctive passions of the feathered race are called into unwonted activity. It will at that time attack even man without hesitation, should he happen to approach the site of its nest; and so impetuous is its attack, that the natives of the Shetland Isles (its peculiar habitat in this kingdom) are compelled on such occasions to defend themselves by holding up a knife, or sharp stick; upon which the assailant has frequently been known to transfix and kill itself, whilst making its pounces upon the head of the intruder. Dogs, foxes, and other animals, are instantly attacked, and so severely dealt with by the wings and beak of the strong and pugnacious Skua, as to be soon driven to a hasty retreat, and no bird is permitted to approach with impunity; the Eagle itself being beaten off

with the utmost fury, should it happen to venture within the limits of the breeding territory. As above observed, it inhabits the Shetland Isles, breeding in communities upon Foulah, Unst, and Rona's Hill in Mainland. It selects the wild and unfrequented heaths for the site of its nest, which is formed of a few dried weeds and grasses; and its eggs, two in number, are of a dark oil-green colour, blotched with irregular brown spots, with smaller whitish ones intermixed. After performing the duties of incubation, it retires to the adjacent seas, where it leads a solitary life, rarely approaching the land till the advance of spring again urges it to seek its summer retreat. It is but seldom found in the southern parts of Scotland, and the instances of its capture upon the English coast are of still rarer occurrence, MONTAGU only mentioning one, of a bird that was shot at Sandwich, in Kent.—The food of the Skua consists of fish, the carcasses of cetaceæ, and other marine animal matter; a great part of which is obtained from the larger Gulls, whom it attentively watches, and pursues with unceasing hostility, till they are compelled to disgorge the fish or other substance that they had previously swallowed, and which, from its rapid evolutions on the wing, it generally catches before reaching the surface of the water. In this, as well as in the other species, the claws are strong and much hooked, particularly that of the inner toe; and it is said to make use of them in holding fast its prey, which is torn in pieces after the manner of raptorial birds. The Skua inhabits also various parts of the Arctic Regions, and is well known in the Feroe Islands, in Norway, and Iceland. It is, moreover, a native of the high latitudes of the southern hemisphere, and is mentioned by COOK, and other circumnavigators, under the name of the Port Egmont Hen. Dr FLEMING * observes, that the fea-

Nest, &c.

Food.

* For some interesting observations upon the Skuas, I refer my readers to a paper by Dr FLEMING, published in the first volume of the Edinburgh Philosophical Journal.

thers of these birds have a very strong smell, not unlike that peculiar to the Petrels, to which genus, as I have before remarked, they shew much affinity*.

PLATE 100. represents the Common Skua in about four-fifths of the natural size.

General
description.

Male bird.

Head, cheeks, and region of the eyes, deep yellowish-brown. Neck having the feathers wiry and pointed; and, together with the under plumage, of a deep brownish-grey, or clove-brown, marbled and tinged with reddish-brown. The first quill having its outer web and tip blackish-brown; the rest the same on the tips only, the basal part being white; shafts of all of them white, and strong. Upper plumage dark reddish-brown, with lighter-coloured oblong spots. Tail of twelve feathers; its basal half white, the remainder deep brown; rounded, with the two middle feathers a little exceeding the rest in length. Bill brownish-black, with the soft corneous part slightly elevated above the hooked tip. Lower mandible grooved, and forming an angle at the symphysis. Orbits black; irides deep hazel-brown. Legs rather strong, and covered with large prominent black scales. Claws black, strong, hooked, and grooved beneath.

Female.

The Female resembles the Male bird both in colour and size; and there appears to be but little variation in the changes of plumage from the Young to the Adult state.

* MR NEILL has now (1832) in his possession a Skua, that was brought to him as a nestling from Rona's Hill in summer 1820, when the gentlemen engaged in the Government Trigonometrical Survey were encamped on that mountain. It likes herring, which it swallows whole, but prefers a piece of very fat boiled mutton; it is also fond of soft cheese. When it cries, it opens its mouth to the full gape, and the scream it utters sounds somewhat like *skui*. It moults but once a-year. When irritated, or preparing to attack, it raises the neck-feathers in the manner of a game-cock.

POMARINE SKUA.

CATARACTES POMARINUS, Steph.

PLATE CI.*

- Cataractes Pomarinus, Steph.* Shaw's Zool. 13. 216. pl. 24.
Lestris Pomarinus, Temm. Man. d'Orn. 2. 793.—Faun. Amer. Boreal.
 2. 429. No. 194.—*Sabine*, Sup. Parry's 1st Voy. 206. 22.
Stercoraire Pomarin, Temm. Man. d'Orn. 2. 793.
Stercoraire rayé, Orn. 6. 152. No. 2. t. 13. f. 2.
Felsen Meve, Meyer, Vog. Deut. 2. Heft 20.
Pomarine Skua, Shaw's Zool. 13. 216. pl. 24.
Pomarine Jager, Faun. Amer. Boreal. 2. 429. No. 194.

THIS species, intermediate in size between the Common and Arctic Skuas, was first specifically described by TEMMINCK in his "Manuel d'Ornithologie," appearing, when previously met with, to have been confounded with the latter of these birds. Since its distinctive characters have been made known, and a greater degree of attention has been bestowed on ornithological pursuits, we find it more frequently recognised; and within the last two or three years several specimens have been obtained on the English coast, particularly in Yorkshire and Durham, during the autumnal months. In November 1831, a letter from RUDSTON READ, Esq. of Frickly Hall, near Doncaster, informed me of his having killed three of these birds off Scarborough, in the month preceding; and a subsequent communication from Mr WILLIAMSON of the latter place, contained an account of others which had come under his examination, all of them killed upon the same part of the coast. He also gives an interesting account of their manners, to observe which Mr READ and himself had proceeded to sea in an open boat; and he goes on to say, "we were not disappointed, for, after rowing out to sea about four or five miles, we had the pleasure of seeing two in full chase after the other Gulls, in the manner of the *Lestris (Cataractes) Parasiticus*, only appearing more Occasional
visitant.

bold, striking them with great force and power, and pursuing them to a great distance; the Gulls making a loud and screaming noise every time they were struck at. I got an Arctic Gull (*Skua*) in company with them, but saw no more; nor have any of the Skua Gulls been seen or heard this year." All these specimens appear to have been birds of the first year, the description of their plumage answering to that age as given in TEMMINCK's "Manuel d'Ornithologie;" nor have I yet learned that an adult bird has been killed in Britain. In Europe, the present species is found upon the coasts of Sweden and Norway, where it breeds, but has not hitherto been met with in Shetland (the resort of the other species), or any of the northern Scottish Islands. According to Dr RICHARDSON, it is common in North America, inhabiting the northern outlets of Hudson's Bay and other Arctic seas, where it subsists upon fish, and other animal substances cast on shore, as well as on the disgorgements of the Gulls, when pursued and attacked by it. He adds, "that it retires from the north in the winter, and makes its first appearance at Hudson's Bay in May, coming in from seaward." It breeds in situations similar to those selected by the Common and Arctic Skuas, constructing its nest of moss, dried grass, &c. TEMMINCK mentions the eggs as two or three in number, of a yellowish-grey colour, thinly spotted with blackish-brown. This species is readily distinguished at all ages from the Arctic Skua by its superior size, by the greater length of its wings, and the rounded ends of the two projecting tail-feathers; as well as by other distinctive tokens in colour and disposition of plumage.

Food.

Nest, &c.

General
description.

Adult bird.

PLATE 101. represents the matured bird, from a specimen in the collection of Sir WILLIAM JARDINE, Baronet.

Bill, from the forehead to the tip, one inch and three-eighths long; the soft corneous part greenish-grey, the tip black. Irides dark-brown. Face, crown of the head, occiput, back, scapulars, wings, and tail, deep blackish-

brown, with a slight tinge of grey. Sides and nape of the neck clothed with long subulated feathers of a glistening sienna-yellow. Throat, forepart of the neck, belly and abdomen, white. Breast having a collar or gorget of greyish or broccoli brown spots. Flanks and lower tail-coverts dashed with greyish-brown. The two middle tail-feathers elongated, but preserving their breadth throughout. Shafts of the quills and tail-feathers white. Legs and toes black; the hind toe very short, and armed with a stout nail.

The following description answers to one of the individuals examined by Mr WILLIAMSON, and agrees with one in my possession; being the plumage of the first year.

Length twenty inches; breadth of the extended wings forty-six inches. Bill one inch and a half long, of a bluish colour; the upper mandible having the culmen rounded, as far as the dertrum, which is bent down like that of the Common Skua, and is black. A groove from the top and bottom of the nostrils extends to the base of the bill, making the cereous part of the upper mandible appear as if in three longitudinal divisions. The lower mandible has its tomia bending inwards, and a longitudinal groove extends from the base for upwards of half its length. Irides hazel. Legs and feet bluish-black, with the claws black and much hooked. Head and neck clove-brown, tinged with grey, and the feathers very finely margined with pale brown. Upper plumage deep clove-brown, with the tips of the feathers yellowish-brown; broadest on each side of the shaft, and looking like two spots. Under plumage having the basal part of the feathers white, the rest marbled with yellowish-brown and clove-brown. Upper and under tail-coverts transversely barred with pale clove-brown and reddish-white. Shafts and basal part of the inner

Young.

webs of the quill-feathers white; the tips and outer webs black. Wings, when closed, reaching upwards of an inch beyond the tail. Tail-feathers having part of their shafts and the basal half of their inner webs white; the rest black; and the two middle ones exceeding the rest about three-quarters of an inch in length, but preserving their full breadth, and rounded at the ends. As the bird advances in age the under parts become whiter, and the subulated feathers upon the head and neck make their appearance.

ARCTIC SKUA.

CATARACTES PARASITICUS, *Flem.*

PLATE CL AND CI*.

- Cataractes parasiticus*, *Flem.* Br. Anim. 1. 138. No. 222.
Lestris parasiticus, *Temm.* Man. d'Ornith. 2. 796.—Faun. Amer. Boreal. 2. 430. No. 195.—*Sabine*, Mem. Birds of Greenland, 551. No. 24.
Stercorarius Cephus, *Steph.* Shaw's Zool. 13. 211. pl. 23.
Stercorarius longicaudus, *Briss.* Orn. 6. 155.
Larus parasiticus, *Linn.* Syst. 1. 226. 10.—*Gmel.* Syst. 1. 601.—*Lath.* Ind. Orn. 2. 819. sp. 15.
 Le Labbe à longue queue, *Buff.* Ois. 8. 445.—*Id.* Pl. Enl. 962.
 Stercoraire parasite, ou Labbe, *Temm.* Man. d'Orn. 2. 796.
 Arctic Bird, *Edward's* Glean. 148 and 149.
 Arctic Gull, *Penn.* Br. Zool. 2. 533. No. 245. pl. 87.—*Arct.* Zool. No. 459.—*Lath.* Syn. 6. 389. 10. t. 99.—*Mont.* Orn. Dict. and Sup.—*Lewin's* Br. Birds, 6. pl. 207.—*Bewick's* Br. Birds, ed. 1826, p. t. 232.—*Flem.* Br. Anim. 1. 138. No. 222.
 Arctic Jager, *Shaw's* Zool. 13. 211. pl. 23.—Faun. Amer. Boreal. 2. 430. No. 195.
 { *Larus crepidatus*, *Gmel.* Syst. 1. 612.—*Lath.* Ind. Orn. 2. 819. sp. 14.
 Lestris crepidatus, *Temm.* Man. d'Orn. 1. ed. 515.
 Cataracta Cephus, *Brunn.* 36. No. 126.—*Raii* Syn. 129. 11.
 Cephus, *Dr Lyons* in Trans. Phil. Soc. 42. 137.
 Le Labbe, ou Stercoraire, *Buff.* Ois. 8. 441. t. 34.—*Id.* Pl. Enl. 991.
 Labbe à courte queue, *Cuv.* Reg. Anim. 1. 520.
 Black-toed Gull, *Penn.* Br. Zool. 2. 532. No. 224. pl. 86.—*Arct.* Zool. 2. No. 460.—*Lath.* Syn. 6. 387. 15.—*Id.* Sup. 268.—*Bewick's* Br. Birds. ed. 1826, p. t. 235.—*Mont.* Orn. Dict. and Sup.

Young.

PROVINCIAL—Teazer, Dung Hunter, Scull, Boatswain, Dung Bird, Faskiddar, Dirten-Allen, Scoute-Allen, Badock, Allan, Skui.

IN its young state, as the Black-toed Gull (*Larus crepidatus*) of authors, this species is not of unfrequent occurrence, during the autumnal months, upon the northern coast of England; to which it is attracted by the Gulls that follow the shoals of herring on their approach to the shallows, for the purpose of depositing their spawn. Like the other Skuas, it obtains the greater part of its subsistence by continual warfare on the above-mentioned birds; vigorously pursuing and harassing them till they are compelled to disgorge the food previously swallowed. In this occupation its dark plumage and rapid flight are certain to attract the attention of the spectator; and there are few probably who have visited the coasts of Scotland, and the northern districts of England, who have not witnessed and admired the aerial evolutions of the *Teazer*, and the distress of its unfortunate object of attack. It is but very rarely met with beyond the precincts of the Shetland and Orkney Isles in its adult state, and only one instance has occurred within my own observation, viz. on an excursion to the Fern Islands in the month of May, when two of these birds flew ahead of the boat in a northerly direction; and which were perfectly distinguishable by their lengthened and slender middle tail-feathers, and the black and white of their plumage. This Skua does not appear to be a permanent resident in any part of the British dominions, for Low, in his "*Fauna Orcadensis*," describes it as a migratory bird, arriving there and in Shetland in May, and departing in autumn, or as soon as the duties of reproduction have been effected. From its absence, in the adult state, from our southern coast, it would seem that the line of its winter migration is more to the eastward; and this agrees with the statement of TEMMINCK, who gives as its habitats the shores of the Baltic, of Norway and Sweden.—It breeds upon several of the Orkney and Shetland Isles, and is gregarious during that period; and the situations selected for nidification are the unfrequented heaths at some distance from the shore. The nest is composed of dry grass

Periodical
visitant.

Food.

Nest, &c.

and mosses, and its two eggs are of a dark oil-green, with irregular blotches of liver-brown. At this season the bird is very courageous, and, like the Common Skua, attacks every intruder upon the limits of its territory, by pouncing and striking at the head with its bill and wings. It also occasionally endeavours to divert attention by feigning accidental lameness, in the same manner as the Partridge and Lapwing. Its flight is rapid and peculiar, being performed by successive jerks, which render it easily distinguishable from the Gulls, amongst whom it is so often seen mingled, in watchfulness of their movements. This species is widely distributed throughout the higher Arctic Regions, and was met with in all the late Expeditions to the polar seas, both in Europe and North America.

PLATE 101.* represents the Arctic Skua of the natural size, and in the matured plumage.

General
description.

Adult bird.

Bill having the cereous part greyish-black, with the tip darker; depressed, and broad at the base; grooved as in the *Cat. Pomarinus*, and forming three plates; lower mandible laterally grooved for two-thirds of its length; the symphysis forming a slight angle; commissure straight to a little beyond the line of the nostrils, when it becomes curved in both mandibles. Irides chesnut-brown. Forehead, chin, cheeks, sides of the neck, and breast, pale straw-yellow. Belly yellowish-white, passing towards the abdomen and upon the flanks into greyish-brown. Feathers of the upper part of the neck wiry and acuminate, forming a kind of collar. Crown of the head, nape of the neck, back, quills, tail, and under tail-coverts, brownish-black, tinged with grey, deepest upon the head and the extremities of the wings and tail. Shafts of the quills and tail-feathers whitish to near their points. The two middle tail-feathers much produced, and tapering to a fine point. Wings, when closed, very little longer than the lateral feathers of the

tail. Legs blotched with yellow; front of the tarsus scutellated, the back part reticulated with small pointed conical scales, giving it a roughness to the feel.—Both sexes are alike.

PLATE 101. The bird of the year, in the natural size; from a specimen obtained on the coast of Northumberland.

Head and neck clove-brown, with striæ of pale yellowish-brown; most conspicuous upon the ear-coverts and hind part of the neck. Back, wing-coverts, and scapulars, deep clove-brown; the feathers being tipped with yellowish-white, inclining upon the ridges of the wings to yellowish-brown. Quills brownish-black, with the lower part of the inner webs and shafts white. Tail the same; the two middle feathers about half an inch longer than the rest, and sharp pointed. Under plumage pale clove-brown, undulated with yellowish-white and pale wood-brown. Legs having the posterior part of the webs and toes yellowish-white, the front part and claws black.

Young.

In this, and a still farther advanced state, it answers to the *Black-toed Gull* of our authors.

GENUS PROCELLARIA, LINN. PETREL.

GENERIC CHARACTERS.

BILL strong, straight, thick, subcylindrical; the upper mandible broader than deep at the base; tip distinct, compressed, arched, and hooked; lower mandible laterally furrowed, with a distinct, semi-truncate, and angulated tip, much compressed, and fitting into the hooked dertrum of the upper mandible. Tomia of both mandibles sharp; those of the upper slightly overlapping the under ones. Nostrils

tubular, contained in an elevated convex sheath reaching as far as the arch of the dertrum, opening outwardly by a single orifice. Wings long and acuminate; the first quill-feather exceeding the rest in length. Tail slightly rounded. Legs of mean length and strength; tarsi reticulated; feet of three toes, webbed; toes long and slender; the outer and middle ones being of nearly equal length, and longer than the inner one; hind toe represented by a strong and slightly recurved nail. Claws long, and rather falcate.

The present genus, of which the Fulmar may be considered the type, has been separated from the rest of the Petrels (genus *Procellaria* of authors) by some of the most eminent systematists of our age, on account of the different character displayed in the form of the bill. In the members of this genus it is of great power, being much dilated at the base, and armed with a very strong and hooked dertrum. The nostrils, though divided by a septum within the nasal sheath, exhibit externally only one large rounded aperture. Their habits are more diurnal than those of the Shearwaters and Storm Petrels. Their flight is easy and buoyant, and they are almost constantly on wing, only alighting on the ocean to take a short repose, and rarely coming to land, except during the period of incubation. They feed upon the blubber of whales and other cetaceous animals, as well as fish, and possess (like most of the nearly allied groups) the property of squirting a clear liquid oil from their tubular nostrils with much force, and as a method of defence. The sexes are of similar plumage, and the changes from the young to the adult state, although not violent, are supposed to occupy two years. They are inhabitants of the higher latitudes of both Hemispheres, and breed in the holes and on the ledges of precipitous rocks; laying but one egg, which is of a large size, and white.

FULMAR PETREL.

PROCELLARIA GLACIALIS, Linn.

PLATE CIL *

- Procellaria glacialis*, Linn. Syst. 1. 213. 3.—Gmel. Syst. 1. 562.—Lath. Ind. Orn. 2. 823. sp. 9.—Sabine, in Linn. Trans. 12. 553.—Flem. Br. Anim. 1. 135. No. 217.
Procellaria cinerea, Briss. 6. 143. 2. t. 12. f. 2.
Fulmarus glacialis, Steph. Zool. 13. 234. pl. 27.
 Fulmar, ou Petrel puffin-gris blanc, Buff. Ois. 9. 325. t. 22.
 Petrel de l'Isle de St Kilda, Buff. Pl. Enl. 59.
 Petrel Fulmar, Temm. Man. d'Orn. 2. 802.
 Fulmar Petrel, Penn. Br. Zool. 2. 549. No. 257. pl. 91.—Aret. Zool. 2. No. 461.—Lath. Syn. 6. 403. 9.—Lewin's Br. Birds, 6. pl. 217.—Mont. Orn. Dict. and Sup.—Bewick's Br. Birds, ed. 1826, p. t. 259.
 Northern Fulmar, Shaw's Zool. 13. 234. pl. 27.

PROVINCIAL.—Mallemuck, Malmoke, Mallduck.

THE steep and rocky St Kilda, one of the western islands of Scotland, is the only locality within the British dominions annually resorted to by the Fulmar, the rest of the Scottish, and our more southern coasts, being rarely visited even by stragglers. Upon St Kilda these birds are found in vast numbers during the spring and summer months, breeding in the caverns and holes of the rocks; and, from the various uses to which the down, feathers, and oil of the young are applied, contribute essentially to the comfort of the inhabitants.—They lay but one egg each, white, and of a large size, with a shell of very brittle texture. The young are hatched about the middle of June, and are fed with oil thrown up by the parents. (the produce of the food upon which they subsist), and, as soon as fledged, are eagerly sought for by the natives, although often at the risk of life, in scaling the tremendous and overhanging cliffs in which they nestle. Like most of the group, these birds have the power of ejecting oil with much force through their tubular nostrils, which is used as the principal mode of defence; it becomes an es-

Incuba-
tion, &c.

Food.

sential point, therefore, that they should be taken and killed by surprise, in order to prevent the loss of a liquid so requisite for the comfort of the inhabitants, by supplying them with the necessary fuel for their lamps. The Fulmar is of voracious appetite, feeding upon all sorts of animal substance, particularly of an oily nature, such as the blubber of whales, seals, &c.; and for this purpose, it follows in great numbers the track of the whale vessels, and is so greedy of its favourite food, as to be often seen alighting upon the wounded animal, when not quite dead, and immediately proceeding to break the skin with its strong hooked bill, and gorging itself with the blubber to repletion. Upon the banks of Newfoundland it is also a constant attendant upon the fishing-vessels. Here it is known by the appellation of *John Down*, living luxuriously upon the liver and offal of the cod-fish; and is often taken alive by a hook baited with a piece of the liver or flesh. During the summer its polar migration extends to very high latitudes. Captain SABINE states it to be abundant at all times in Davis' Straits and Baffin's Bay; and the same author, in his *Memoirs of the Birds of Greenland*, observes, that whilst the ships were detained by ice in Jacob's Bay, latitude 71°, from the 24th of June to the 3d of July, Fulmars were passing in a continual stream to the northward, in numbers inferior only to the flight of the passenger pigeon in North America. From the extent of its wings the Fulmar flies with great buoyancy, and is seldom seen near the shore, except during the period of reproduction; at other times remaining out at sea, and seeking its repose by floating upon the surface of the water.

PLATE 102. Fig. 1. Represents the Adult bird of the natural size.

General
description.

Adult bird.

Bill bright gamboge-yellow, with the nasal tube inclining to saffron-yellow, very strong and powerful. Irides pale king's-yellow. Head, neck, rump, tail, and under parts of the body pure white. Mantle, scapulars, wing-

coverts, and secondary quills fine bluish-grey. Quill feathers blackish-grey. Legs yellow, tinged with grey. Tail rounded.

Fig. 2. The bird before having acquired maturity.

Head, neck, rump, tail, and under plumage ash-grey. A Young.
spot of blackish-grey at the anterior angle of the eye.
Upper plumage deep ash-grey, with a slight tinge of brown. Bill and legs yellow, tinged with grey.

GENUS PUFFINUS, RAY. SHEARWATER.

GENERIC CHARACTERS.

BILL as long as, or longer than, the head, straight, slender, subcylindrical, with the tip of the upper mandible arched and hooked, that of the lower one bent downwards, and fitting into the upper without any angle at the symphysis. Nostrils basal, tubular, with two distinct truncated openings in front.

Wings long, acuminate, with the first quill-feather the longest. Tail rounded. Legs having the tarsi of mean length, laterally compressed. Feet of three toes, entirely webbed; hind toe represented by a straight nail or claw. General contour rather long.

The Shearwaters are distinguished from the birds of the preceding genus by the comparative slenderness and weakness of the bill, and the peculiar modification of its tip, both mandibles being *bent downwards*. As also in the nostrils, which are formed (as it were) of two tubes cemented sideways together, and opening outwardly by two separate truncated apertures instead of one, as in the Fulmar. Their legs are placed farther backwards, and the tarsi are longer in proportion and very much compressed, a formation which, without

doubt, greatly facilitates that singular practice of running along the surface of the waves, which they are so frequently seen to exhibit when in search of their food. In habits they approach the succeeding genus *Thalassidroma* (Storm Petrels), feeding by night rather than by day. They breed in the holes of rocks, rabbit-burrows, &c. and lay a single white egg of a large size. Their food consists of putrescent fish, cetaceæ, marine worms, and other floating animal matter. Their flight is rapid, and they are observed to be particularly alert during dark and tempestuous weather.

CINEREOUS SHEARWATER.

PUFFINUS CINEREUS, Steph.

PLATE CII *.

Puffinus cinereus, Steph. Shaw's Zool. 13. 227.
Procellaria cinerea, Gmel. Syst. 1. 563.—Lath. Ind. Orn. 2. 824. sp. 10.
Procellaria Puffinus, Linn. Syst. 1. 513. 6.—Gmel. Syst. 1. 566.
 Le Puffin, Buff. Ois. 9. 321.—Id. Pl. Enl. 962.
 Pétrel Puffin, Temm. Man. d'Ornith. 2. 805.
 Cinereous Petrel, Lath. Syn. 8. 405. 10.
 Cinereous Shearwater, Shaw's Zool. 13. 227.

Very rare
 visitant.

I AM induced to add this species of Shearwater to the list of our Fauna, in consequence of a specimen that lately came into my possession, obtained upon the coast of Northumberland. Its size is about a third larger than that of the succeeding species, which it resembles in general form; and its bill, as in TEMMINCK's description, is turned slightly upwards in front of the nostrils, which latter are formed of two tubes, rather depressed anteriorly, and opening by separate truncated apertures. This appears to be a common bird in the Mediterranean, and on the coast of Spain, but does not seem to have been hitherto recognised as a British visitant, though in all probability it may occasionally have been killed here, but always confounded with the other one

so common upon the southern and western coasts of England. Its habits are presumed to be similar, but as they have not been noticed by TEMMINCK, or any other writer, I must confine myself to a mere description of the plumage of the individual above mentioned, which appears to be a bird of the year.

PLATE 102 *. Natural size.

Bill, from the forehead to the tip, one inch and three quarters long, slightly recurved, with the dertrum arched, and strongly hooked; nasal tubes obliquely truncated and open in front. Tip of the lower mandible bent down, and following the curve of the upper one. Head, back part of the neck, and the upper plumage, blackish-brown, with the margins and tips of the feathers of the scapulars lighter. Throat, lower part of the neck, and the whole of the under plumage deep ash-grey, with a tinge of broccoli-brown. Quills and tail brownish-black. Legs having the outer part of the tarsus deep grey; the inner part and webbs yellowish. Tarsus two inches and one-eighth long. Middle and outer toes two inches and a half in length.

General
description.

MANKS SHEARWATER.

PUFFINUS ANGLORUM, Ray.

PLATE CII.

- Puffinus Anglorum, Raii Syn.* 134. A. 4.—*Will.* 252.—*Steph. Shaw's Zool.* 13. 226. pl. 26.—*Flem. Br. Anim.* 1. 137.
Procellaria Puffinus, Lath. Ind. Orn. 2. 824. sp. 11.—*Briss. Orn.* 6. 131.
Le Puffin cendré, Cuv. Reg. Anim. 1. 516.
Pétrel Manks, Temm. Man. d'Orn. 2. 806.
Manks Puffin, Edwards' Glean. pl. 379.—*Will. Angl.* 333.
Shearwater Petrel, Penn. Br. Zool. 2. 551. No. 258.—*Arct. Zool.* 2. 462.
—*Lath. Syn.* 6. 406. 11.—*Id. Sup.* 269.—*Mont. Ornith. Dict. and Sup.*
—*Bewick's Br. Birds*, ed. 1826, p. t. 241.
Manks Shearwater, Shaw's Zool. 13. 226. pl. 26.

PROVINCIAL—Lvre, Shearwater, Scrabe.

From the accounts transmitted to us by WILLOUGHBY and PENNANT, this species appears, at the time they wrote, to have resorted in great numbers to the Calf of Man, a small inlet at the south end of the main island, and only divided from it by a narrow channel. But, from the information I have been able to obtain, confirmed by the testimony of Sir WILLIAM JARDINE, (who visited the Isle of Man a few years ago with the express view of ascertaining this and some other points connected with Ornithology), it seems now to be entirely deserted by these birds, a circumstance in all probability occasioned by the wanton and greedy destruction of their eggs and young, for PENNANT tells us, that in his day great numbers were annually killed by the person who then farmed this islet, as the birds were in high estimation, both in a fresh and salted state. This Shearwater was also said to breed upon Scilly Islands, but not having extended my inquiries to that group, I am unable to say whether it is now to be found there. It is still, however, abundant in the Orkneys, where it breed in holes scratched in the earth that fill up the interstices of the rocks and bold headlands, and is stated by Low to be the main object of pursuit to the *rock-men*, who endanger their lives in climbing the most awful precipices for the eggs and young of the various waterfowl that make their nests in such situations. Like the rest of the genus, this bird lays but one white egg, of a rounded form, being equally obtuse at each end, and not inferior in size to that of a domestic fowl. It arrives at its breeding station in February or March; and soon after August, when its young is able to fly, deserts it for the open sea, migrating, as the winter approaches, in a southerly direction towards the coast of Spain, the Mediterranean, &c. In Britain it is almost entirely confined to the western coast, being of very rare occurrence on the eastern, where I have only met with one individual, which was shot upon an excursion to the Fern Islands. WILLOUGHBY (in his Ornithology, so admirably correct for the time at which he wrote), has described this

Incubation, &c.

species as feeding by day and not by night, for he says, "the old ones, early in the morning at break of day, leave the nests and young, and the island itself, and spend the whole day in fishing in the sea, never returning or setting foot on the island before evening twilight, so that *all the day* the island is so quiet and still from all noise, as if there were not a bird about it." This is repeated by PENNANT, and by subsequent compilers; but I am inclined to think, that from ignorance of the real habits of the bird, he has taken up a wrong impression, and that the stillness observed upon the island during the day did not arise from the absence of the birds at sea, but from their remaining in their burrows, taking their natural repose, and which is, I think, borne out by the fact of their acknowledged activity at evening twilight and morning dawn.—This Shearwater feeds upon all kinds Food. of marine animal substance, particularly such as is in a state of decomposition, and easily reducible to oil, into which it is soon converted by the action of the stomach. With this liquid it feeds its young, and also defends itself from its enemies by squirting it in their faces from its tubular nostrils. It flies very rapidly, skimming along the surface of the waves, and using its palmated feet to support itself whilst picking up its floating food, or to aid its impetuosity when cutting through the curling crests of the waves. For this purpose its feet are placed far backwards, so that on land it is compelled to sit nearly in an erect position.

PLATE 102. Represents the bird of the natural size, from the specimen above mentioned.

Head, nape, back part of the neck, and upper plumage, deep greyish-black, with a glossy lustre. Sides of the neck and breast transversely rayed with grey and white. Chin, throat, fore part of the neck, and under plumage pure white. Behind the thighs is a patch of black. Quills and tail black, the wings, when closed, reaching nearly to the end of the tail. Bill yellowish-brown at

General description.

the base, darker towards the tip, slender, one inch and three-eighths in length from the forehead to the tip. Legs having the tarsi much compressed; front of the tarsi, and part of the webs and toes yellowish, tinged with flesh-red.

GENUS THALASSIDROMA, *VIGORS*. STORM-
PETREL.

GENERIC CHARACTERS.

BILL shorter than the head, much compressed in front of the nasal sheath, with the tip of the upper mandible suddenly curving and hooking downwards, and that of the lower one slightly angulated and following the curve of the upper. Nostrils contained in one tube or sheath, but shewing two distinct orifices in front.

Wings long, acuminate, with the first quill-feather shorter than the third, and the second the longest in the wing. Tail square, or slightly forked.

Legs having the tarsi rather long and slender, reticulated. Feet of three toes, united by a membrane. The outer and middle toes nearly equal in length, and longer than the inner; hind toe represented by a small strait dependant nail.

The members of this genus, which are all of small size, have been very properly separated by Mr *VIGORS* from the rest of the Petrel group, as they exhibit a decided difference in the form of the bill from that of the Shearwaters and the other nearly allied species, the lateral compression towards the tip being much greater; and the nostrils, instead of being separate tubes, contained in a common sheath, and merely divided by an internal septum. The proportions of the wing are also different, and their legs are longer and placed more in the centre of the body. In *TEMMINCK*'s "Manuel," they

form the third section of his genus *Procellaria*, under the title of "*Petrel Hironnelle*," which sections, as I have before observed, are correspondent to generic divisions. They are birds of nocturnal or crepuscular habits, and are seldom seen except in lowering weather, or during storms, when they frequently fly in the track of ships. At other times, and in clear weather, they remain concealed during the day in the holes of rocks, rat burrows, &c. and only come forth at nightfall in search of food, consisting of marine insects, small molluscæ, and other oily animal matter, which they find floating on the surface of the ocean. Their flight is peculiarly swift, equalling that of any of the Swallow tribe, which birds, indeed, they resemble both in size, colour, and general appearance. The known species are all of a dark hue, more or less relieved with white, are widely distributed, some being found in both hemispheres, and in a variety of climate. They breed in the crevices of rocks, caverns, &c. and, like the members of the two preceding genera, lay but one egg, which is white, and comparatively of a large size.

COMMON STORM-PETREL.

THALASSIDROMA PELAGICA, Mihi.

PLATE CIII. FIG. 2.

Procellaria pelagica, Linn. Syst. 1. 212. 1.—*Gmel.* Syst. 1. 561.—*Briss.* Orn. 6. 140. pl. 13. f. 1.—*Lath.* Ind. Orn. 2. 826. sp. 19.—*Shaw's Zool.* 13. 220.—*Flem.* Br. Anim. 1. 135. No. 218.
Oiseau de Tempête, *Buff.* Ois. 9. 327.
Pétrel Tempête, *Temm.* Man. d'Orn. 2. 810.
Kleinsten Sturmvogel, *Meyer*, Tasschenb. Deut. 2. 495.
Storm-finch, *Will.* (Angl.) 395.
Stormy Petrel, *Penn.* Br. Zool. 2. 553. No. 259. pl. 91.—*Arct. Zool.* 2. 464.—*Edward's Glean.* pl. 90.—*Albin's Birds*, 3. pl. 92.—*Lath.* Syn. Sup. 269.—*Lewin's Br. Birds*, 6. pl. 219.—*Mont.* Orn. Dict. and Sup.—*Bewick's Br. Birds*, ed. 1826, p. t. 246.

PROVINCIAL.—Little Petrel, Witch, Mother Carey's Chicken, Mitty, Assilag, Spency, Sea-swallow, Allamouty.

THESE birds, well known to mariners by the name of "Mother Carey's Chickens *," and dreaded by them as the forerunners of tempestuous weather, are indigenous in Britain, being found upon the surrounding seas at all seasons of the year, and have been ascertained to breed, not only upon the Shetland and other northern islands of Scotland, but upon the rocky coast of the north-west of Cornwall, at the opposite extremity of the kingdom. The geographical distribution of this species has been supposed to be very extensive; but the discovery of other species very closely allied to it both in size and colour (and only to be distinguished by narrow inspection and comparison), in various parts of the Atlantic and Pacific Oceans, makes it more than probable that these latter have been mistaken for it, and that its distribution is in fact much more limited, being in all likelihood confined to the European seas. That it should be oftener seen by sailors during tempests or in the lowering weather immediately preceding a storm, is only what might be expected from the habits of the members of this genus, which, as I have previously remarked, display more activity during the night than the day. Its presence, then, is to be attributed to the gloomy state of the atmosphere that attends such convulsions, and it thus becomes generally what mariners consider it, the natural harbinger of the storm. At such times, also, it approaches nearer to vessels, frequently flying round them like a Swallow, or following in their wake, to all appearance more for the purpose of picking up any food that may occasionally be thrown overboard, or from its natural food, the smaller marine insects, molluscæ, &c. being brought within its reach by the action of the vessel, than for shelter and protection, as it is observed to brave the roughest seas, and even to amuse itself by skimming along the hollows of the waves, or dashing over their summits with amazing velocity. It breeds

Food.

* This title is not, however, restricted to the present species, but is equally applied to *Thalass. Bullockii*, *T. Wilsonii*, *T. oceanica*, &c. which closely resemble each other in appearance, and whose habits are similar.

in the holes of rocks, or, in default of these, in the burrows of rabbits and rats, and under large stones. Most authors have stated it to lay but one egg, and such I believe to be the general law; but Mr SCARTH *, who found a nest in passing over a track of peat moss near the shore upon an uninhabited islet in Orkney (and to which he was directed by the low purring noise of the female), reports that it contained *two* pure white eggs, of a very large size as compared with the bird †. Upon seizing the old one, he adds, she squirted out of her mouth (*nostrils*, I presume), an oily substance of a very rancid smell. He took her home, and having put her into a cage, he offered her worms of various kinds to eat, all of which she refused. After the expiration of four days, he happened to observe that she occasionally drew the feathers of her breast singly across, or rather *through*, her bill, and appeared to suck an oily substance from them, which induced him to smear her breast with train oil; and, observing that she greedily sucked the feathers, he repeated the smearing two or three times each day for about a week. He then placed a saucer containing oil in the cage, in which she regularly dipped her breast and then sucked her feathers as before; and in this way he kept her alive for three months. Some authors have stated that the young, as soon as hatched, are conducted to the water; but this is a mistake, as they remain in the holes till fully fledged and able to fly, which does not take place for some weeks, and during which time they are fed by the parent birds with oily matter ejected from their stomachs. In the evening, when about to sally forth to procure food, the old ones are very clamorous, making a shrill whistling noise as well as the purring before mentioned; but during the day they remain silent and quiet in their retreats. From the nature of its food and peculiar economy, this bird is gene-

Incuba-
tion, &c.

* See Volume Thirteenth of the Linnean Transactions, page 617.

† They are about equal to those of a Blackbird, although this Petrel but little exceeds a Swallow in dimensions.

rally very fat and oily, and by the inhabitants of Ferroe and other islands it frequents is sometimes converted into a lamp. For this purpose a wick of cotton, or other material, is drawn through the body, and which continues to burn till the oil becomes exhausted. Instances frequently occur of its being found rather far inland, either dead or in an exhausted and dying state, but the cause of such mortality has not hitherto been satisfactorily accounted for; it may, however, arise from weakness, occasioned either by old age or accidental illness, rendering it unable to contend with the autumnal and wintry blasts, during which period such instances are most frequent; and this is rendered more probable by its being commonly in an emaciated condition. The flight of the Storm-Petrel is remarkably swift, and is equalled by few of the feathered race. It is often seen darting from wave to wave, at intervals dipping its bill into the water as if in search of insects, or picking up food, during which it will stand (as it were) upon the summit of the billow with wings expanded and raised, but is very rarely seen to alight for swimming, and is totally unable to dive, a faculty attributed to it in an eminent degree by some of the earlier writers.

PLATE 103. Fig. 2. Natural size.

General
descrip-
tion.

Bill, from the forehead to the tip, three-eighths of an inch long; black, with the tip much compressed. Head, back, quills, and tail, glossy black. The lower range of wing-coverts brownish-black. Under plumage pitch or brownish-black. Patch behind the thighs, and bar across the upper-tail coverts, white. Legs and feet black, with the tarsus seven-eighths of an inch in length.

FORK-TAILED STORM-PETREL.

THALASSIDROMA BULLOCKII, Mihi.

PLATE CIII. FIG. 1.

Procellaria Bullockii, *Flem. Br. Anim.* 1. 136. No. 219.

Procellaria Leachii, *Steph. Shaw's Zool.* 13. 219. pl. 25.

Pétrel de Leach, *Temm. Man. d'Orn.* 2. 812.

THIS Petrel, which is about one-third larger than the preceding, was first discovered at St Kilda, and ascertained to be a distinct species by Mr BULLOCK in 1818, during a tour round the coast of Scotland, principally undertaken with a view to investigate its ornithology. I have, therefore, in imitation of Dr FLEMING, and in justice to the original discoverer, adopted the trivial name of *Bullockii*, instead of that of *Leachii*, bestowed upon it by TEMMINCK in his "Manuel d'Ornithologie." Several of these birds were found by Mr BULLOCK at St Kilda, it being the season of incubation; and subsequent observation has shewn that they annually resort to the island for this particular purpose. They have also been repeatedly found, within a few years past, in various places inland (like the preceding species) in a dead or exhausted state, among which I may mention two in the possession of the Rev. R. HAMMOND of Swaffham in Norfolk, one of which was taken in Gloucestershire, and the other found dead upon a warren in the former county. Sir WILLIAM JARDINE also possesses one, taken in a dying state in Dumfriesshire; and Mr ELTON of Redland, near Bristol, informs me that four or five were picked up last winter in that neighbourhood, all in a helpless condition. The habits of this bird are similar to those of the Common Storm-Petrel, with which, notwithstanding its superior size, it has in all probability been often confounded when seen upon wing. It breeds in similar situations, laying a single egg of a large size, rounded shape, and entirely white. It feeds upon ma-

Incuba-
tion &c.
Food.

rine insects, floating mollusca, and other animal matter picked up on the surface of the water, upon which it is never seen actually to alight for repose, but frequently, as it were, stands and runs upon it by the action of its palmated feet and outstretched wings.

PLATE 103. Fig. 1. Represents this bird of the natural size, from a specimen belonging to WILLIAM YARRELL, Esq.

General
description.

Bill black, upwards of half an inch long from the forehead to the tip; much compressed, and shewing an angle upon the lower mandible. Head, neck, and under parts greyish-black, with a tinge of brown upon the abdomen. Back and scapulars deep greyish-black. The lower tier of wing-coverts greyish-white, forming a bar across the closed wings. Quills and tail black, the latter forked. Upper tail-coverts, and patch behind the thighs, white. Wings, when closed, reaching a little beyond the tail. Legs and feet black, with the tarsus nearly one inch in length.

FINIS.

EDINBURGH:

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